

**Third Main Track and Grade Separation Project  
On the Burlington Northern Santa Fe Railway Company  
East-West Main Line Railroad Track  
SCH #2002041111**

**ENVIRONMENTAL IMPACT REPORT  
FINAL**

**December 2003**

Submitted Pursuant to: California Division 13, Public Resources Code

**THE STATE OF CALIFORNIA  
Department of Transportation**

and

**Burlington Northern Santa Fe Railway Company**

*Nov 19, 2003*  
\_\_\_\_\_  
Date of Approval

*Ronald J. Kosinski*  
\_\_\_\_\_  
Ronald J. Kosinski  
Deputy District Director  
Division of Environmental Planning  
District 7  
California Department of Transportation

*Nov 24, 2003*  
\_\_\_\_\_  
Date of Approval

*Warren D. Weber*  
\_\_\_\_\_  
Warren Weber  
Chief  
Division of Rail  
California Department of Transportation

*Nov. 26, 2003*  
\_\_\_\_\_  
Date of Approval

*Walt Smith*  
\_\_\_\_\_  
Walt Smith  
General Director, Construction  
The Burlington Northern and Santa Fe Railway Company

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**TRANSMITTAL**



## **MEMORANDUM**

To: Warren Weber

From: Tom Dodson

Date: November 12, 2003

Subj: Completion of the Final Environmental Impact Report (EIR) for the Third Main Track and Grade Separation Project on the Burlington Northern Santa Fe Railway Company East-West Main Line Railroad Track

The Department of Transportation Division of Rail received written comments on the Draft EIR for the Third Main Track and Grade Separation Project on the Burlington Northern Santa Fe Railway Company East-West Main Line Railroad Track. The contents of a Final EIR are defined in Section 15132 of the State CEQA Guidelines and include: the Draft EIR; comments and recommendations received on the Draft; a list of parties commenting on the Draft EIR; responses to comments by the Lead Agency; and any other information added by the lead agency. The following agencies submitted written comments which are addressed in the attached Responses to Comments:

1. Office of Planning and Research, State Clearinghouse
2. City of Montebello
3. Metrolink
4. Orange County Transportation Authority
5. Orange County Transportation Authority
6. Southern California Association of Governments
7. California Department of Toxic Substances Control
8. California Department of Toxic Substances Control
9. California Public Utilities Commission
10. City of Commerce
11. Richard A. Stromme
12. Southern California Edison
13. County of Orange/Planning
14. County of Los Angeles/Public Works
15. The Gas Company
16. Palmieri, Tyler, Wiener, Wilhelm & Waldron LLP
17. Solid State Devices, Inc. (SSDI)
18. City of Buena Park/Community Development
19. Office of Planning and Research, State Clearinghouse
20. Fullerton Redevelopment Agency
21. Public meeting comments (City of Buena Park, April 29, 2003; City of Santa Fe Springs, April 30, 2003; City of Pico Rivera, May 6, 2003; and City of La Mirada, May 7, 2003).

In addition to the comment letters listed above, This document also includes four attachments as part of the Final EIR. These are: Attachment 1 (NOP Responses); Attachment 2 (Final Drawings for Valley View); Attachment 3 (Summary of Property Acquisition Procedures); and Attachment 4 (Mitigation Monitoring and Reporting Program).



This memorandum, combined with the Draft EIR, the above list, and the attached comments and responses, and the attached Mitigation Monitoring and Reporting Program constitute the Final EIR for the Third Main Track and Grade Separation Project on the Burlington Northern Santa Fe Railway Company East-West Main Line Railroad Track Project. No significant adverse impacts were forecast to result from implementing the proposed project based on the Final EIR, so a Statement of Overriding Considerations will not be required by the Division of Rail when it considers the Final EIR for certification and the proposed project for action. Do not hesitate to give me a call if you have any questions.

Tom Dodson  
Attachments

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## **COMMENT LETTERS AND RESPONSES TO COMMENTS**



Gray Davis  
Governor

COMMENT LETTER #1  
STATE OF CALIFORNIA  
Governor's Office of Planning and Research  
State Clearinghouse



Tal Finney  
Interim Director

May 20, 2003

Gary Iverson  
Department of Transportation, District 7  
120 South Spring Street  
Los Angeles, CA 90012

Subject: Third Main Track and Seven Grade Separations Project, BNSF  
SCH#: 2002041111

Dear Gary Iverson:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on May 19, 2003, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

1-1

"A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Terry Roberts  
Director, State Clearinghouse

Enclosures

cc: Resources Agency

**RESPONSES TO COMMENTS  
LETTER #1  
STATE CLEARINGHOUSE**

- 1-1      This letter is acknowledgment by the State Clearinghouse that the environmental document (SCH #2002041111) completed the review by through the State Clearinghouse on May 19, 2003. Copies of comments from State agencies were forwarded to the Department of Transportation, District 7 for responses. No specific response is required to this letter since it does not raise any environmental issues.

## Document Details Report State Clearinghouse Data Base

**SCH#** 2002041111  
**Project Title** Third Main Track and Seven Grade Separations Project, BNSF  
**Lead Agency** Caltrans #7

**Type** EIR Draft EIR  
**Description** The Department of Transportation, Caltrans District 7, has prepared a program Environmental Impact Report (PEIR) that evaluates the potential significant environmental impacts that may result from construction and utilization of railroad track improvements (a new third main track and supporting infrastructure) and seven grade separations along a 14.7 mile segment of the Burlington Northern Santa Fe Railway Company's East-West Main Line Railroad Track.

### Lead Agency Contact

**Name** Gary Iverson  
**Agency** Department of Transportation, District 7  
**Phone** 213-897-3818 **Fax**  
**email**  
**Address** 120 South Spring Street  
**City** Los Angeles **State** CA **Zip** 90012

### Project Location

**County** Los Angeles, Orange  
**City** Buena Park, Commerce, Fullerton, La Mirada, Montebello, ...  
**Region**  
**Cross Streets**  
**Parcel No.**  
**Township** **Range** **Section** **Base**

### Proximity to:

**Highways** 5 and SH 605  
**Airports** Fullerton Airport  
**Railways** Burlington Northern Santa Fe RR  
**Waterways** San Gabriel River and Coyote Creek  
**Schools**  
**Land Use** Transportation

**Project Issues** Air Quality; Archaeologic-Historic; Flood Plain/Flooding; Job Generation; Soil Erosion/Compaction/Grading; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Wetland/Riparian; Wildlife; Cumulative Effects

**Reviewing Agencies** Resources Agency; Department of Conservation; Department of Fish and Game, Region 5; Office of Historic Preservation; Department of Parks and Recreation; Caltrans, Division of Aeronautics; California Highway Patrol; Department of Housing and Community Development; Air Resources Board, Transportation Projects; State Water Resources Control Board, Division of Water Quality; Regional Water Quality Control Board, Region 8; Department of Toxic Substances Control; Native American Heritage Commission; Public Utilities Commission; State Lands Commission

**Date Received** 04/04/2003 **Start of Review** 04/04/2003 **End of Review** 05/19/2003

## COMMENT LETTER #2

*City of Montebello*

May 20, 2003

Mr. Gary Iverson  
California Department of Transportation, District 7  
120 South Spring Street, MS 16A  
Los Angeles, CA 90012

**RE: PROPOSED THIRD MAIN TRACK AND GRADE SEPARATION PROJECT ON  
THE BURLINGTON NORTHERN SANTA FE RAILWAY COMPANY EAST-WEST  
MAIN LINE RAILROAD TRACK DRAFT ENVIRONMENTAL IMPACT REPORT  
(DRAFT EIR) - SCH#2002041111**

Dear Mr. Iverson:

City of Montebello appreciates the opportunity to comment on the Draft EIR. The following are the City's comments on the document.

- 2-1 1. Please provide the City of Montebello, Public Works Department with plans for the proposal within the city boundaries. The project description claims, "this Burlington Northern Santa Fe main line rail corridor currently has two main tracks that are utilized for freight services to and from eastern destinations and passenger service to and from the Los Angeles... metropolitan areas." Attachment 1, (Page 1 of 4) calls out, "new construction, new siding, two (2) new crossovers, and the conversion of two (2) turnouts to crossovers." Recently, staff observed in the field what appeared to be commencement of construction on the proposed third railroad line.
- 2-2 2. The noise impact analysis in the Draft EIR does not include the sensitive receptor area immediately within the City of Montebello. Section 4.9.2.3 Existing Noise Environment describes the surrounding uses as predominantly industrial and commercially zoned. On page 4.9-7, sensitive receptor areas (residential) are noted in the Cities of Pico Rivera, Santa Fe Springs, La Mirada, and Buena Park. The third main track proposal will affect a Single-Family Residential (R-1) zone located immediately to the north within the City of Montebello. The single-family residential properties are located between Greenwood Avenue on the west, Bluff Road on the East, Elm Street on the north and the Burlington Northern Santa Fe (BNSF) Railroad to the south.
- 2-3 3. Section 1.4 Unresolved Issues (Page 1-3) states that, "a related, but not project dependent unresolved issue, is the noise exposure adjacent to residential uses

**RESPONSES TO COMMENTS**  
**LETTER #2**  
**CITY OF MONTEBELLO**

- 2-1 The proposed third main track improvements in the City of Montebello extend for about one mile just south of Sycamore Street. The Burlington Northern Santa Fe Railway Company (BNSF) carries out routine maintenance and improvement activities within its right-of-way and as far as could be determined, any construction within the BNSF right-of-way is not related to the proposed project. Routine maintenance activities in the Hobart yard are not associated with the proposed project and do not require any approvals from regulatory agencies. A copy of the detailed construction plans for the portion of the third main track improvements within the City of Montebello will be provided to the City for information if and when the proposed project is approved by Caltrans.
- 2-2 The existing background noise level in Montebello associated with existing train operations will range between 74 and 78 dBA CNEL. The predicted noise level (refer to Subchapter 4.9 (Table 4.9-5) and Subchapter 8.5) after implementation of the project will increase by less than 1.0 dBA at the residences. A field review of this residential area was conducted in response to this comment by the City. There are random occurrences of residences along the whole project alignment in addition to those mentioned in the Draft EIR. Regardless, the noise impact of the proposed project will be to transfer some unquantifiable number of trains to the proposed new track located south of the existing tracks (further from the residences) within the City of Montebello. Based on the noise study provided by Giroux and Associates, the net effect of this relocation will be to reduce the noise levels at the existing residences by about .5 to 1 decibel. This is caused by transferring a certain number of trains to the new track which is located 15 feet south of the existing tracks. The noise decrease is consistent (i.e., does not change) along the whole distance of the proposed third main track improvements due to the new track being located 15 closer or further from sensitive noise sources.
- 2-3 As indicated in the discussion above, the net change in noise at the residences in the City of Montebello from implementing the proposed project will be a reduction of the noise level at the residences. The existing noise level from current train operations are unrelated to the proposed project; therefore, no nexus exists between the proposed project and the measured background noise level and additional noise mitigation is not the responsibility of the proposed project, which may actually reduce noise exposure to residences in the City. The City could install additional sound attenuation features if it believes that such additional noise attenuation is justified adjacent to the existing tracks. However, the Noise Barrier Study in Volume 2 of the EIR indicates that the height of a sound wall sufficient to mitigate noise to acceptable levels may be very high. Please refer to this study for additional information.

2-3  
cont.

from existing train operations... the noise data do indicate that background noise levels from the current train operations are about 70 decibels..." Please indicate the mitigation measures for recurring noise exposure above 70 decibels. The City of Montebello is requesting that the height of the existing sound wall along the BNSF railway (between Greenwood Avenue and Bluff Road) be increased by at least six (6) feet. Additional landscaping should be installed along the landscaped area for graffiti prevention purposes for the wall and as an additional sound barrier.

2-4

4. Please delete or revise the language of Mitigation Measure 4.9-9. The residents of the City of Montebello would not benefit from allowing jackhammers and vibratory equipment at night. Table 1.2-1 includes an unacceptable noise mitigation measure 4.9-9 in reference to mitigating "construction vibration impacts related to heavy construction equipment, jackhammers, and vibratory compaction equipment, the contractor will be required to modify the construction procedure. Such construction operation modifications may include scheduling vibrating equipment use during periods when... impacts can be minimized, such as working at night."

2-5

5. On page 2-4, the Draft EIR states that scoping meetings were held within the area of potential effect from project implementation. Since a segment of the proposed railway improvements within the City of Montebello is adjacent to a sensitive receptor (residential) area, it is imperative that property owners receive notification of public meetings. Please provide documentation verifying that public notices were mailed to the residents and businesses of the City of Montebello for the aforementioned project scoping meetings.

2-6

6. Please provide clarification that the subject proposal will not increase future rail operations. Section 1-1 states that up to 100 freight and passenger trains presently use the subject segment of main line track on a daily basis. Although, the Draft EIR indicates that the track improvements are not being implemented to allow for expanded railway traffic, future increases in the number of trains is projected. Enhancement to the flow of train traffic and elimination of movement conflicts may allow for increased volumes and frequency of train traffic. Please provide analysis of the number of additional trains that may be accommodated as a result of the proposed railway improvements and the resultant elevation in noise levels.

2-7

Staff will reserve final comment on the alternatives until a full and accurate project proposal and analysis is completed for that portion within the City of Montebello. If you have any questions regarding these comments, please call Antonio Gardea at 323-887-1481.

Sincerely,

  
Antonio Gardea  
Associate Planner



**Responses to Comment Letter #2 (continued)**

- 2-4 This comment is noted and will be forwarded to the Department of Transportation decision-makers for consideration before project approval is made to allow the proposed project to be implemented. The referenced mitigation measure, 4.9-9, was actually devised to reduce potential impacts at manufacturing facilities that may be sensitive to vibrations (such as computer chip manufacturing). Thus, the reference to night time construction when manufacturing operations will not be in operation. Further, this measure is focused on grade separation construction activities, not the third main track construction, and no grade separation construction will occur within the City of Montebello. However, the text of the Final EIR will be modified to indicate that the alternative of night time construction shall not be implemented within residential areas where residents are present at night, unless noise levels at the nearest residence are controlled to a level below the City's noise standard or below existing background noise levels.
- 2-5 Notices of availability, scoping meetings and other meetings are not required to be provided to each residence or person that may be affected by a proposed project. Instead, notices of the scoping meeting and public meetings on the project were provided in newspapers of general circulation for the project area. These newspapers included: the Los Angeles Times, L.A. Watts Times, Eastern Group Publications (including the Eastside Sun, Northeast Sun, Mexican American Sun, Bell Gardens Sun, Commerce Comet, City Terrace Comet, Montebello Comet, Monterey Park Comet, Elia Brooklyn-Belverdere Comet and Wyvernwood Chronicle), Orange County Register, and Orange County News. Please refer to Section 15087 of the State CEQA Guidelines which identifies the public notice requirements for a Draft EIR. As individual residents and businesses request information they will be added to the project mailing list so that they can be contacted and provided future notices.
- 2-6 Please refer to the discussion of future increases in train operations on pages 2-1, 3-2 and Appendix 8-1. Current train operations are about 96 per day, split almost evenly between freight and passenger trains. Regional train operation forecasts identify future increases in train operations along the BNSF main line corridor, with up to 150 trains in 2010 and 200 plus operations by 2025. However, these operations are based on assumptions about future growth in commercial demand in the region, primarily associated with port operations in Long Beach and San Pedro. The objective of this project is to enhance the existing flow of train traffic, particularly passenger trains during peak hour operations, to ensure that operating schedules can be met under current operating loads.
- Thus, the increase in train operations is forecast to occur regardless of whether this project is implemented. Above about 100 train operations, sections of the existing main line track with two tracks will experience delays, which will consist of more trains being stopped and held for a passing train of higher priority (this already happens and is the driving force by the State Department of Transportation to add the third main track in order to support passenger train operations). Adding the third main track from Hobart to Basta will reduce the number of delays by increasing operational capability along the main line track.
- 2-7 This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented.



COMMENT LETTER #3

Southern California Regional Rail Authority

700 South Flower Street, 26<sup>th</sup> Floor  
Los Angeles, California 90017-4101

May 16, 2003

SCRRA File: G0000069

Mr. Gary Iverson, Office Chief  
California Department of Transportation, Dist. 7  
120 S. Spring Street, MS-16A  
Los Angeles, CA 90012

RE: Comments on the Draft EIR for the Proposed Third Main Track and Seven Grade Separations Project on the Burlington Northern Santa Fe Railway Company East-West Main Line Railroad Track SCH #2002041111 (Commerce to Basta)

Dear Mr. Iverson:

The Southern California Regional Rail Authority (SCRRA) received the Notice of Availability for the document listed above. Thank you for this notification and the opportunity to comment on this draft document. As background information, SCRRA is a five-county Joint Powers Authority (JPA) that operates the regional commuter rail system known as Metrolink. Additionally, SCRRA provides rail engineering, construction, operations and maintenance services to its five JPA member agencies. The JPA consists of the Los Angeles County Metropolitan Transportation Authority (LACMTA), San Bernardino Associated Governments (SANBAG), Orange County Transportation Authority (OCTA), Riverside County Transportation Commission (RCTC) and Ventura County Transportation Commission (VCTC). SCRRA operates commuter rail service through the proposed project area, referred to as the Orange County Line and the 91 Line.

3-1

SCRRA supports this project to construct a third main track from Commerce to Fullerton - as it benefits SCRRA to expand capacity for commuter rail, intercity passenger and freight service in this area. This segment of the rail corridor is currently extremely congested and limits SCRRA's ability to add additional service at peak travel times. SCRRA currently experiences service delays in this area, which leads to decreased reliability of the commuter rail service. For these reasons, SCRRA is supportive of this project being constructed.

3-2

In order to maintain reliable passenger service during construction, the full schedule of Metrolink trains must be operated throughout construction of the project. If a Metrolink train must be cancelled due to construction, then alternate bus service must be provided and SCRRA should be reimbursed for this additional cost. One suggested method of managing construction delays to train service is to follow the SCRRA construction contract specification of a maximum of four (4) minutes per train delay to SCRRA service. If this threshold is exceeded, penalties should be assessed to the contractor as detailed in the contract. If unavoidable delays in excess of four (4) minutes are anticipated, a minimum of thirty (30) days advance notice would need to be given to SCRRA - in order to arrange temporary service alternatives and to notify passengers. During construction, full train service is expected to continue at the three Metrolink stations within the project area - Commerce, Norwalk/Santa Fe Springs and Fullerton. Also, it is requested that any

3-3

**RESPONSES TO COMMENTS**  
**LETTER #3**  
**SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY**

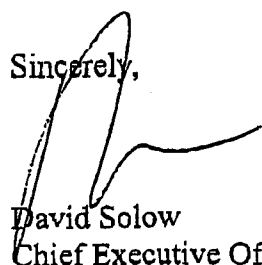
- 3-1 This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented.
- 3-2 BNSF has extensive experience in managing construction on its tracks to minimize conflicts with train operations. Three assumptions are included in conjunction with the proposed project: (1) potential conflicts will only occur when third main track construction occurs and minimal, if any, delays will occur when the grade separation projects are being implemented; and (2) most construction will occur during windows when train traffic on the third main track is lowest; and (3) installation of the third main track should rarely conflict with operations on the two existing tracks. In addition, the preparation of a traffic management plan, including train traffic, must be completed prior to initiating construction. It is during the preparation of this plan that potential track delays will be defined and SCRRA will be provided with information regarding potential for delays. This approach should provide ample advance notice so SCRRA can provide notice of alternative means of transportation to its ridership. Given the process outlined above, the potential conflicts with Metrolink trains is not forecast to be significant, as indicated in the Draft EIR. At this time no reimbursement for short-term delays is anticipated as SCRRA will benefit over the long-term from better scheduling and the Department believes it is inappropriate to artificially increase costs of a public project such as that proposed.
- 3-3 Full train service can and will be maintained at the three affected Metrolink stations (Commerce, Norwalk/Santa Fe Springs and Fullerton) during construction. If any station impacts may occur, BNSF will identify them in the transportation management plan that will be coordinated with SCRRA. Adequate time for review of the plan by SCRRA and city staff will be provided in this process.

Third Main Track - Commerce to Fullerton DEIR Comments  
May 16, 2003  
Page 2

3-3 station impacts be communicated to SCRRA as well as the appropriate city staff at least two  
cont. weeks ahead of the impact.

3-4 Nothing in these comments is intended to alter any terms of the agreements SCRRA has with  
The Burlington Northern and Santa Fe Railway Company. Once again, thank you for requesting  
SCRRA's input on this Draft EIR. If you have any questions regarding these comments please  
contact Deadra Knox, Strategic Development Planner, at (213) 452-0359 or [knoxd@scrra.net](mailto:knoxd@scrra.net).

Sincerely,



David Solow  
Chief Executive Officer

cc: Pat Merrill, Caltrans Rail Program  
Ken Galt, Caltrans Rail Program  
Linda Wright, Caltrans District 7  
Luisa Easter, Caltrans District 12  
SCRRA Files

***Responses to Comment Letter #3 (continued)***

- 3-4      This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented.

## COMMENT LETTER #4



## AFFILIATED AGENCIES

Orange County  
Transit District

Local Transportation  
Authority

Service Authority for  
Freeway Emergencies

Consolidated Transportation  
Service Agency

Congestion Management  
Agency

Service Authority for  
Abandoned Vehicles

May 15, 2003

Ms. Karen Cadavona  
California Department of Transportation, District 7  
Division of Environmental Planning  
120 South Spring Street  
Los Angeles, California 90012

**Subject: BNSF Third Main Track and Grade Separation Project Program EIR**

Dear Ms. Cadavona:

The Orange County Transportation Authority (OCTA) appreciates the opportunity to participate in the BNSF Third Main Track and Grade Separation Project. OCTA is a member of a Southern California Regional Rail Authority (SCRRA), a Joint Powers Authority (JPA) that operates the regional commuter rail system (Metrolink). The JPA other members are the Los Angeles County Metropolitan Transportation Authority (LACMTA), San Bernardino Associated Governments (SANBAG), Riverside County Transportation Commission (RCTC) and Ventura County Transportation Commission (VCTC). Two commuter rail lines are operated through the proposed project area, referred to as the Orange County Line and the 91 Line.

OCTA has reviewed the above referenced document and has the following comments:

- 4-1 1. In order to maintain a level of reliability and full-service during construction, all Metrolink trains must be operated throughout construction of the project. If a Metrolink train must be cancelled due to construction, then alternate bus service must be provided and SCRRA should be reimbursed for this additional cost. It is requested that the construction contract specify a maximum of four (4) minutes per day cumulative delay to SCRRA service. If this threshold is exceeded,
- 4-2 penalties should be assessed to the contractor as detailed in the contract. If delays in excess of four (4) cumulative minutes are anticipated, a minimum of thirty (30) days advance notice would need to be given to SCRRA - in order to arrange temporary service alternatives.
- 4-3 During construction, full train service is expected to continue at the three Metrolink stations within the project area - Commerce, Norwalk/Santa Fe Springs and Fullerton. Also, it requested that station impacts be
- 4-4 communicated to SCRRA as well as the appropriate city staff at least one week ahead of the impact.

**RESPONSES TO COMMENTS**  
**LETTER #4**  
**ORANGE COUNTY TRANSPORTATION AUTHORITY**

- 4-1      This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. Please refer to responses to comment 3-1 through 3-3 which further addresses this issue.
- 4-2      Please refer to response to comment 3-2 which addresses this same issue.
- 4-3      Please refer to response to comment 3-3 which addresses this issue.
- 4-4      Please refer to response to comment 3-3 which addresses this issue.

Department of Transportation  
June 18, 2001  
Page 2

4-5

2. Nothing in these comments is intended to alter any terms of the agreements that OCTA has with the Burlington Northern Santa Fe Railway Company.

If you have any questions regarding these comments, please feel free to contact me at 714-560-5673 or [sdupuis@octa.net](mailto:sdupuis@octa.net).

Sincerely,



Shohreh Dupuis,  
Manager of Commuter Rail Services

C: Deadra Knox, SCRRA



***Responses to Comment Letter #4 (continued)***

- 4-5      This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented.



COMMENT LETTER #5

**AFFILIATED AGENCIES**

Orange County  
Transit District

Local Transportation  
Authority

Service Authority for  
Freeway Emergencies

Consolidated Transportation  
Service Agency

Congestion Management  
Agency

Service Authority for  
Abandoned Vehicles

May 19, 2003

Ms. Karen Cadavona  
California Department of Transportation, District 7  
Division of Environmental Planning  
120 South Spring Street  
Los Angeles, California 90012

**Subject: BNSF Third Main Track and Grade Separation Project Program EIR**

Dear Ms. Cadavona:

The Orange County Transportation Authority (OCTA) appreciates the opportunity to participate in the BNSF Third Main Track and Grade Separation Project. OCTA is a member of a Southern California Regional Rail Authority (SCRRA), a Joint Powers Authority (JPA) that operates the regional commuter rail system (Metrolink). The JPA other members are the Los Angeles County Metropolitan Transportation Authority (LACMTA), San Bernardino Associated Governments (SANBAG), Riverside County Transportation Commission (RCTC) and Ventura County Transportation Commission (VCTC). Two commuter rail lines are operated through the proposed project area, referred to as the Orange County Line and the 91 Line.

OCTA has reviewed the above referenced document and has the following comments:

- 5-1 1. In order to maintain reliable passenger service during construction, the full schedule of Metrolink trains must be operated throughout construction of the project. If a Metrolink train must be cancelled due to construction, then alternate bus service must be provided and SCRRA should be reimbursed for this additional cost. One suggested method of managing construction delays to train service is to follow the SCRRA construction contract specification of a maximum of four (4) minutes per train delay to SCRRA service. If this threshold is exceeded, penalties should be assessed to the contractor as detailed in the contract. If unavoidable delays in excess of four (4) minutes are anticipated, a minimum of thirty (30) days advance notice would need to be given to SCRRA – in order to arrange temporary service alternatives and to notify passengers. During construction, full train service is expected to continue at the three Metrolink stations within the project area - Commerce, Norwalk/Santa Fe Springs and Fullerton. Also, it is requested that any station impacts be communicated to SCRRA as well as the appropriate city staff at least two weeks ahead of the impact.
- 5-2
- 5-3
- 5-4
- 5-5

Department of Transportation  
May 19, 2003  
Page 2

5-6

2. Nothing in these comments is intended to alter any terms of the agreements that OCTA has with the Burlington Northern Santa Fe Railway Company.

If you have any questions regarding these comments, please feel free to contact me at 714-560-5673 or [sdupuis@octa.net](mailto:sdupuis@octa.net).

Sincerely,



Shohreh Dupuis,  
Manager of Commuter Rail Services

C: Deadra Knox, SCRRRA  
Mr. Gary Iverson, Caltrans

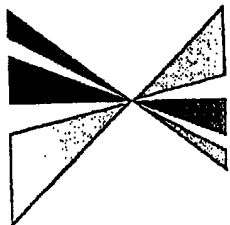
**RESPONSES TO COMMENTS  
LETTER #5  
ORANGE COUNTY TRANSPORTATION AUTHORITY**

5-1 –

5-6      This letter essentially duplicates comment letter #4. The responses to comment letter #4 respond to the six comments in this letter.

## COMMENT LETTER #6

SOUTHERN CALIFORNIA

ASSOCIATION of  
GOVERNMENTS

## Main Office

818 West Seventh Street

12th Floor

Los Angeles, California

90017-3435

t (213) 236-1800

f (213) 236-1825

www.scag.ca.gov

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Mayor Bev Perry, Brea • Second Vice President:  
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Park • Lou Boue, Tustin • Debbie Cook,  
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• Ron Laveridge, Riverside • Jeff Miller, Corona •  
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Garcia, Grand Terrace • Susan Longville, San  
Bernardino • Gary Ovin, Ontario • Deborah  
Roberson, Rialto

Ventura County: Judy Mikels, Ventura County •  
Gleu Becerra, Santa Valley • Carl Morehouse, San  
Buenaventura • Toni Young, Port Huemene

Riverside County Transportation Commissioners:  
Robin Lowe, Hemet

Ventura County Transportation Commissioners:

May 12, 2003

Mr. Gary Iverson  
Office Chief  
Caltrans District 7  
120 South Spring Street, MS 16A  
Los Angeles, CA 90012

RE: Comments on the Draft Environmental Impact Report for the Burlington  
Northern / Santa Fe Railway Company – Third Main Track and Grade  
Separation Project - SCAG No. I 20030194

Dear Mr. Iverson:

Thank you for submitting the Draft Environmental Impact Report for the Burlington  
Northern / Santa Fe Railway Company – Third Main Track and Grade Separation  
Project to SCAG for review and comment. As areawide clearinghouse for regionally  
significant projects, SCAG reviews the consistency of local plans, projects, and  
programs with regional plans.

This activity is based on SCAG's responsibilities as a regional planning organization  
pursuant to state and federal laws and regulations. Guidance provided by these  
reviews is intended to assist local agencies and project sponsors to take actions that  
contribute to the attainment of regional goals and policies.

If you have any questions regarding the attached comments, please contact me at (213)  
236-1867. Thank you.

Sincerely,

JEFFREY M. SMITH, AICP  
Senior Regional Planner  
Intergovernmental Review

**RESPONSES TO COMMENTS  
LETTER #6  
SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS**

- 6-1      This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented.

May 12, 2003  
Mr. Gary Iverson  
Page 2

**COMMENTS ON THE  
DRAFT ENVIRONMENTAL IMPACT REPORT  
FOR THE  
BURLINGTON NORTHERN / SANTA FE RAILWAY COMPANY  
THIRD MAIN TRACK AND GRADE SEPARATION PROJECT  
SCAG NO. I 20030194**

**PROJECT DESCRIPTION**

The proposed Project considers the implementation and construction of a variety of rail corridor truck and grade crossing improvements. The elements of potential improvements include:

1. Installation of new track and siding.
2. Track structure upgrades.
3. Widening of the San Gabriel River Bridge, and additional modifications to existing bridges.
4. Signal systems upgrades, and .
5. New grade separations within the Cities of Pico Rivera, Santa Fe Springs, La Mirada and unincorporated areas of Los Angeles County.

**INTRODUCTION TO SCAG REVIEW PROCESS**

The document that provides the primary reference for SCAG's project review activity is the Regional Comprehensive Plan and Guide (RCPG). The RCPG chapters fall into three categories: core, ancillary, and bridge. The Growth Management (adopted June 1994), Regional Transportation Plan (adopted April 2001), Air Quality (adopted October 1995), Hazardous Waste Management (adopted November 1994), and Water Quality (adopted January 1995) chapters constitute the core chapters. These core chapters respond directly to federal and state planning requirements. The core chapters constitute the base on which local governments ensure consistency of their plans with applicable regional plans under CEQA. The Air Quality and Growth Management chapters contain both core and ancillary policies, which are differentiated in the comment portion of this letter. The Regional Transportation Plan (RTP) constitutes the region's Transportation Plan. The RTP policies are incorporated into the RCPG.

Ancillary chapters are those on the Economy, Housing, Human Resources and Services, Finance, Open Space and Conservation, Water Resources, Energy, and Integrated Solid Waste Management. These chapters address important issues facing the region and may reflect other regional plans. Ancillary chapters, however, do not contain actions or

May 12, 2003  
Mr. Gary Iverson  
Page 3

policies required of local government. Hence, they are entirely advisory and establish no new mandates or policies for the region.

Bridge chapters include the Strategy and Implementation chapters, functioning as links between the Core and Ancillary chapters of the RCPG.

Each of the applicable policies related to the proposed project are identified by number and reproduced below in italics followed by SCAG staff comments regarding the consistency of the Project with those policies.

### **SUMMARY OF SCAG STAFF COMMENTS**

- 6-2 1. The Draft EIR does not addresses the relationship of the proposed project to **applicable regional plans** as required by Section 15125 [d] of *Guidelines for Implementation of the California Environmental Quality Act*.
- 6-3 2. The subject of railroad crossings is discussed in the 2001 RTP. The proposed Project is supportive of the following RTP action, which states, "Construct grade separations where streets and highways cross regional rail lines..."
- 6-4 3. The Final EIR should address the relationships (consistency with core policies and support of ancillary policies) to SCAG's Regional Comprehensive Plan and Guide, utilizing commentary from the following detailed SCAG staff comments. The response should also discuss any inconsistencies between the proposed project and applicable regional plans. We suggest that you identify the specific policies, by policy number, with a discussion of consistency or support with each policy.

### **CONSISTENCY WITH REGIONAL COMPREHENSIVE PLAN AND GUIDE POLICIES**

- 6-5 **The Growth Management Chapter (GMC)** of the Regional Comprehensive Plan and Guide contains a number of policies that are particularly applicable to the Burlington Northern / Santa Fe Railroad Company – Third Main Track and Grade Separation Project.
- 3.01 *The population, housing, and jobs forecasts, which are adopted by SCAG's Regional Council and that reflect local plans and policies, shall be used by SCAG in all phases of implementation and review.*
- 3.03 *The timing, financing, and location of public facilities, utility systems, and transportation systems shall be used by SCAG to implement the region's growth*



***Responses to Comment Letter #6 (continued)***

- 6-2 Because this project was consistent with all local plans (General Plans for the cities of Montebello, Commerce, Pico Rivera, Santa Fe Springs, La Mirada, Buena Park, and Fullerton and counties of Los Angeles and Orange) and regional plans (RCPG, RTP and AQMP), no detailed land use evaluation was deemed to be necessary. This conclusion is contained in Appendix 8.1 of the Draft EIR. As evidenced by the consistency analysis contained in this comment letter, the proposed project is fully consistent with regional goals of enhancing rail transportation, eliminating at-grade crossings which cause greater air emissions and traffic impacts and reducing air emissions within the South Coast Air Basin. The analysis presented in this comment letter clearly demonstrates conformity with the applicable regional plans (no significant adverse impact) as required by Section 15125.
- 6-3 The benefits of constructing grade separations where local and regional streets and highways cross regional railroad tracks is address generally throughout the document, but particularly in the air quality and traffic subchapters, 4.2 and 4.8, respectively.
- 6-4 The comments contained in this document address the pertinent comments and they are hereby incorporated into the Final EIR. No additional evaluation is deemed necessary to demonstrate consistency with core and ancillary policies.
- 6-5 Regarding Policy 3.01, the proposed project is not forecast to affect population or jobs forecasts over the long-term. No new permanent jobs or population will be added to the region. Short-term construction jobs were identified as being filled by existing local construction contractors since no special construction job requirements are associated with this project. Finally regarding housing impacts, the grade separation components of this project are forecast to adversely affect a number of residences in the cities of Pico Rivera, Santa Fe Springs and adjacent unincorporated County areas. However, appropriate mitigation has been identified to ensure that no significant loss of housing will occur due to creating new housing or finding comparable housing for displaced residents.
- Regarding the timing, financing and location of transportation system improvements, this project provides the means to implement seven grade separation projects and BNSF main line track improvements that fully support SCAG growth policies.

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Mr. Gary Iverson  
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6-5  
cont.

policies.

**The Regional Transportation Plan (RTP)** also has policies pertinent to this proposed project. This chapter links the goal of sustaining mobility with the goals of fostering economic development, enhancing the environment, reducing energy consumption, promoting transportation-friendly development patterns, and encouraging fair and equitable access to residents affected by socio-economic, geographic and commercial limitations. Among the relevant policies of this chapter are the following:

6-6

**4.01** *Transportation investments shall be based on SCAG's adopted Regional performance Indicators.*

**4.02** *Transportation investments shall mitigate environmental impacts to an acceptable level.*

SCAG staff comments. The Draft EIR identifies environmental impacts and details the measures mitigate these impacts. Chapter 4 (Environmental Evaluation) provides an environmental evaluation and recommended mitigation measures. The Project is consistent with this core RTP policy.

**4.04** *Transportation Control Measures shall be a priority.*

**4.16** *Maintaining and operating the existing transportation system will be a priority over expanding capacity.*

6-7

SCAG staff comments. The Draft EIR, in Chapter 3 (Project Description) discusses the need for the proposed Project and proposed improvements, which will help to maintain and operate the existing transportation system. The Project is supportive of this core RTP policy.

### **GMC POLICIES RELATED TO THE RCPG GOAL TO IMPROVE THE REGIONAL QUALITY OF LIFE**

6-8

The Growth Management goals to attain mobility and clean air goals and to develop urban forms that enhance quality of life, that accommodate a diversity of life styles, that preserve open space and natural resources, and that are aesthetically pleasing and preserve the character of communities, enhance the regional strategic goal of maintaining the regional quality of life. The evaluation of the proposed project in relation to the following policies would be intended to provide direction for plan implementation, and does not allude to regional mandates.

***Responses to Comment Letter #6 (continued)***

- 6-6      The Department concurs that the project as proposed with mitigation is consistent with policies 4.01 and 4.02.
- 6-7      The key project objective of this project is to maintain operating capacity of the existing rail system and the Department concurs that this project is fully consistent with policies 4.04 and 4.16.
- 6-8      Based on the impact analysis, the long-term effect of the proposed project will be to reduce regional air emissions and enhance air quality and enhance vehicle traffic flow on the local and regional circulation system in the project area. In addition to these local and regional contributions to enhancement to the quality of the environment, the proposed project incorporates designs in the grade separation that will enhance the aesthetic character of these project components.

May 12, 2003  
Mr. Gary Iverson  
Page 5

**3.18** *Encourage planned development in locations least likely to cause environmental impacts.*

6-9 SCAG staff comments. The Project is proposed in a manner, which will minimize environmental impacts. Mitigation measures included in the Draft EIR are recommended to address identified impacts. The Project is supportive of this ancillary RCPG policy.

**3.20** *Support the protection of vital resources such as wetlands, groundwater recharge areas, woodlands, production lands, and land containing unique and endangered plants and animals.*

6-10 SCAG staff comments. The Draft EIR in Chapter 4.3 (Biological Resources) includes discussions on the Projects' impact on biological resources. The Draft EIR recommends one mitigation measure to address impacts to biological resources. The Project is supportive of this ancillary RCPG policy.

**3.21** *Encourage the implementation of measures aimed at the preservation and protection of recorded and unrecorded cultural resources and archaeological sites.*

6-11 SCAG staff comments. The Draft EIR in Chapter 4.4 (Cultural Resources) acknowledges that the proposed Project would have impacts on unknown subsurface/buried archaeological, paleontological and historic resources. Mitigation measures recommended will address impacts to resources. The Project is supportive of this ancillary RCPG policy.

**3.22** *Discourage development, or encourage the use of special design requirements, in areas with steep slopes, high fire, flood, and seismic hazards.*

6-12 SCAG staff comments. The Draft EIR in Chapter 4.5 (Geology Resources / Constraints) discusses potential impacts related to soils, geology and seismicity. Mitigation measures outlined in this section are recommended to address identified impacts through the implementation of building codes and specific requirements and/or project design, and measures. The Project is supportive of this ancillary RCPG policy.

***Responses to Comment Letter #6 (continued)***

- 6-9      The Department concurs that the project as proposed with mitigation is consistent with policy 3.18.
- 6-10     The Department concurs that the project as proposed with mitigation is consistent with policy 3.20.
- 6-11     The Department concurs that the project as proposed with mitigation is consistent with policy 3.21.
- 6-12     The Department concurs that the project as proposed with mitigation is consistent with policy 3.22.

May 12, 2003  
Mr. Gary Iverson  
Page 6

6-13 3.23 *Encourage mitigation measures that reduce noise in certain locations, measures aimed at preservation of biological and ecological resources, measures that would reduce exposure to seismic hazards, minimize earthquake damage, and to develop emergency response and recovery plans.*

SCAG staff comments. The Draft EIR in Chapter 4.9 (Noise) acknowledges that the proposed Project would have short and long term noise impacts. Mitigation measures are recommended to address noise impacts. The Project is supportive of this ancillary RCPG policy.

#### **AIR QUALITY CHAPTER CORE ACTIONS**

The Air Quality Chapter core actions related to the proposed project includes:

6-14 5.07 *Determine specific programs and associated actions needed (e.g., indirect source rules, enhanced use of telecommunications, provision of community based shuttle services, provision of demand management based programs, or vehicle-miles-traveled/emission fees) so that options to command and control regulations can be assessed.*

5.11 *Through the environmental document review process, ensure that plans at all levels of government (regional, air basin, county, subregional and local) consider air quality, land use, transportation and economic relationships to ensure consistency and minimize conflicts.*

SCAG staff comments. The Draft EIR in Section 4.2 (Air Quality) acknowledges regional and construction air quality, relationships to ensure consistency and minimize conflicts. Recommended mitigation measures address impacts related to construction, operations and emissions. The Project is consistent with this core RCPG policy.

#### **WATER QUALITY CHAPTER RECOMMENDATIONS AND POLICY OPTIONS**

6-15 The Water Quality Chapter core recommendations and policy options relate to the two water quality goals: to restore and maintain the chemical, physical and biological integrity of the nation's water; and, to achieve and maintain water quality objectives that are necessary to protect all beneficial uses of all waters.

11.07 *Encourage water reclamation throughout the region where it is cost-effective,*

***Responses to Comment Letter #6 (continued)***

- 6-13     The Department concurs that the project as proposed with mitigation is consistent with policy 3.23.
- 6-14     The Department concurs that the project as proposed with mitigation is consistent with policies 5.07 and 5.11.
- 6-15     The proposed project incorporates specific measures that are designed to ensure the chemical, physical and biological quality of water resources are maintained. Further, with mitigation the water quality objectives of the Regional Water Quality Control Plan will be completely fulfilled. During construction, recycled water will be used to the extent allowed under regulations.

May 12, 2003  
Mr. Gary Iverson  
Page 7

6-15  
cont.

*feasible, and appropriate to reduce reliance on imported water and wastewater discharges. Current administrative impediments to increased use of wastewater should be addressed.*

### **CONCLUSIONS**

6-16

1. As noted in the staff comments, the Draft Environmental Impact Report for the Burlington Northern / Santa Fe Railroad – Third Main Track and Grade Separation Project is consistent with or supports many of the core and ancillary policies in the Regional Comprehensive Plan and Guide.

6-17

2. As noted in the Summary of SCAG Staff Comments, the Final EIR should address the relationships (consistency with core policies and support of ancillary policies) to SCAG's Regional Comprehensive Plan and Guide and discuss any inconsistencies between the proposed project and applicable regional plans.

3. All feasible measures needed to mitigate any potentially negative regional impacts associated with the proposed project should be implemented and monitored, as required by CEQA.



***Responses to Comment Letter #6 (continued)***

- 6-16 This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented.
- 6-17 This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. Based on this review, the project is consistent with applicable regional policies and all mitigation measures will be implemented and monitored as requested.

May 12, 2003  
Mr. Gary Iverson  
Page 8

## SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

### *Roles and Authorities*

THE SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS (SCAG) is a **Joint Powers Agency** established under California Government Code Section 6502 et seq. Under federal and state law, SCAG is designated as a Council of Governments (COG), a Regional Transportation Planning Agency (RTPA), and a Metropolitan Planning Organization (MPO). SCAG's mandated roles and responsibilities include the following:

SCAG is designated by the federal government as the Region's **Metropolitan Planning Organization** and mandated to maintain a continuing, cooperative, and comprehensive transportation planning process resulting in a Regional Transportation Plan and a Regional Transportation Improvement Program pursuant to 23 U.S.C. '134, 49 U.S.C. '5301 et seq., 23 C.F.R. '450, and 49 C.F.R. '613. SCAG is also the designated **Regional Transportation Planning Agency**, and as such is responsible for both preparation of the Regional Transportation Plan (RTP) and Regional Transportation Improvement Program (RTIP) under California Government Code Section 65080 and 65082 respectively.

SCAG is responsible for developing the demographic projections and the integrated land use, housing, employment, and transportation programs, measures, and strategies portions of the **South Coast Air Quality Management Plan**, pursuant to California Health and Safety Code Section 40460(b)-(c). SCAG is also designated under 42 U.S.C. '7504(a) as a **Co-Lead Agency** for air quality planning for the Central Coast and Southeast Desert Air Basin District.

SCAG is responsible under the Federal Clean Air Act for determining **Conformity** of Projects, Plans and Programs to the State Implementation Plan, pursuant to 42 U.S.C. '7506.

Pursuant to California Government Code Section 65089.2, SCAG is responsible for **reviewing all Congestion Management Plans (CMPs) for consistency with regional transportation plans** required by Section 65080 of the Government Code. SCAG must also evaluate the consistency and compatibility of such programs within the region.

SCAG is the authorized regional agency for **Inter-Governmental Review** of Programs proposed for federal financial assistance and direct development activities, pursuant to Presidential Executive Order 12,372 (replacing A-95 Review).

SCAG reviews, pursuant to Public Resources Code Sections 21083 and 21087, Environmental Impacts Reports of projects of regional significance for consistency with regional plans [California Environmental Quality Act Guidelines Sections 15206 and 15125(b)].

Pursuant to 33 U.S.C. '1288(a)(2) (Section 208 of the Federal Water Pollution Control Act), SCAG is the authorized **Areawide Waste Treatment Management Planning Agency**.

SCAG is responsible for preparation of the **Regional Housing Needs Assessment**, pursuant to California Government Code Section 65584(a).

SCAG is responsible (with the Association of Bay Area Governments, the Sacramento Area Council of Governments, and the Association of Monterey Bay Area Governments) for preparing the **Southern California Hazardous Waste Management Plan** pursuant to California Health and Safety Code Section 25135.3.

Revised July 2001

## COMMENT LETTER #7

## Department of Toxic Substances Control



Winston H. Hickox  
Agency Secretary  
California Environmental  
Protection Agency

Edwin F. Lowry, Director  
1011 N. Grandview Avenue  
Glendale, California 91201

Gray Davis  
Governor

May 7, 2003

Mr. Gary Iverson  
Office Chief  
Division of Environmental Planning  
District 7, California Department of Transportation  
120 South Spring Street  
Los Angeles, California 90012-3606

DRAFT ENVIRONMENTAL IMPACT REPORT, THIRD MAIN TRACK AND GRADE  
SEPARATION PROJECT ON THE BURLINGTON NORTHERN SANTA FE RAILWAY  
COMPANY, EAST-WEST MAIN LINE RAILROAD TRACK, SCH#2002041111

Dear Mr. Iverson:

The Department of Toxic Substances Control (DTSC) reviewed the draft Environmental impact Report, dated March 2003, for the above mentioned project. DTSC will like to notify you that DTSC is currently overseeing soil and groundwater investigation at a site near the proposed location for the railroad track.

7-1

The site, formerly known as Los Angeles County, Department of Agricultural Commissioner, is located at 8841 East Slauson Avenue in Pico Rivera, California. The facility was used for mixing rodent and bird baits for pest control, disposing pesticides acquired from pesticide collection program, and incinerating plants that were held under quarantine for pests or disease.

7-2

The County of Los Angeles is currently conducting the soil and groundwater investigation at the site. Based on the current information, some soil within the site is contaminated with chlorinated pesticides and there may be a potential release of hazardous waste into groundwater. The groundwater depth is approximately 38 feet below the groundwater surface. The County will be conducting a groundwater investigation to determine whether the groundwater is contaminated.

DTSC recommends that procedures to handle hazardous waste be included in your operation plan and health and safety plan as a contingency.

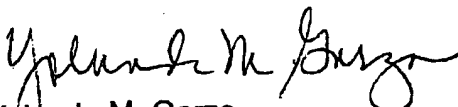
**RESPONSES TO COMMENTS**  
**LETTER #7**  
**DEPARTMENT OF TOXIC SUBSTANCES CONTROL**

- 7-1      This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented.
- 7-2      Refer to the discussion of hazards and water quality impacts in Subchapters 4.6 and 4.7, respectively, of the Draft EIR. Mitigation measures in these two subchapters identify specific requirements for establishment of procedures to handle hazardous waste that may be generated by the project and contaminated soil that may be encountered during construction.

Mr. Gary Iverson  
May 7, 2003  
Page 2

Should you have any question, please contact Ms. Chia-Rin Yen, at (818) 551-2955.

Sincerely,

  
Yolanda M. Garza  
Unit Chief  
Southern California Permits and Corrective Action Branch  
Hazardous Waste Management Program

cc: Mr. Bob Atkins  
Department of Agricultural Commissioner/Weights and Measures  
County of Los Angeles  
3400 Madera Avenue  
El Monte, California 91732

Mr. Raymond B. Smith  
Supervising Agricultural Inspector  
Pest Management Division  
Department of Agricultural Commissioner/Weights and Measures  
County of Los Angeles  
12300 Lower Azusa Road  
Arcadia, California 91006-5872

Chia-Rin Yen  
Department of Toxic Substances Control  
1011 North Grandview Avenue  
Glendale, California 91201-2205



COMMENT LETTER #8

## Department of Toxic Substances Control



Winston H. Hickox  
Agency Secretary  
California Environmental  
Protection Agency

Edwin F. Lowry, Director  
1011 N. Grandview Avenue  
Glendale, California 91201

Gray Davis  
Governor

May 8, 2003

Mr. Gary Iverson, Chief  
Division of Environmental Planning  
California Department of Transportation  
(District 7, Los Angeles)  
120 South Spring Street  
Los Angeles, California 90012

NOTICE OF COMPLETION OF DRAFT ENVIRONMENTAL IMPACT REPORT FOR  
THE THIRD MAIN TRACK AND SEVEN GRADE SEPARATIONS PROJECT, BNSF  
EASTWEST MAIN LINE RAILROAD TRACK PROJECT, SCH 2002041111

Dear Mr. Iverson:

The Department of Toxic Substances Control (DTSC) has received your Notice of Completion of a draft Environmental Impact Report (EIR) for the project mentioned above.

Based on the review of the document, DTSC comments are as follows:

8-1

If during construction of the project, soil contamination is suspected, construction in the area should stop, and appropriate health and safety procedures should be implemented. If it is determined that contaminated soils exists, the draft EIR should identify how any required investigation and/or remediation will be conducted, and which government agency will provide regulatory oversight.

8-2

DTSC provides guidance for Preliminary Endangerment Assessment preparation and cleanup oversight through the Voluntary Cleanup Program (VCP). For additional information on the VCP please visit DTSC's web site at [www.dtsc.ca.gov](http://www.dtsc.ca.gov). If you would

**RESPONSES TO COMMENTS**  
**LETTER #8**  
**DEPARTMENT OF TOXIC SUBSTANCES CONTROL**

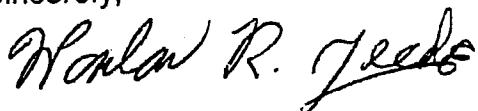
- 8-1 Please refer to response to comment 7-2 which partially addresses this issue. The Draft EIR identifies specific procedures for addressing any contaminated soil encountered during implementation of this project. Because of the project's location with several cities and two counties, BNSF and its contractors will work through the Local Enforcement Agency (typically the city or county fire department's hazardous materials management division) to provide regulatory oversight of any remediation effort.
- 8-2 This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. Should it become necessary, BNSF and its contractor or the contractor on the grade separations may contact the VCP if any contaminated soil is encountered during construction.

Mr. Gary Iverson  
May 8, 2003  
Page 2

8-2  
cont.

↑ like to meet and discuss this matter further, please contact Mr. Alberto Valmidiano,  
Project Manager, at (818) 551-2870 or me, at (818) 551-2877.

Sincerely,



Harlan R. Jeché  
Unit Chief  
Southern California Cleanup Operations Branch – Glendale Office

Enclosure

cc: Governor's Office of Planning and Research  
State Clearinghouse  
P. O. Box 3044  
Sacramento, California 95812-3044

Mr. Guenther W. Moskat, Chief  
Planning and Environmental Analysis Section  
CEQA Tracking Center  
Department of Toxic Substances Control  
P. O. Box 806  
Sacramento, California 95812-0806





# Department of Toxic Substances Control



Winston H. Hickox  
Agency Secretary  
California Environmental  
Protection Agency

Edwin F. Lowry, Director  
1001 "I" Street, 25<sup>th</sup> Floor  
P.O. Box 806  
Sacramento, California 95812-0806

Gray Davis  
Governor

## MEMORANDUM

TO: Sayareh Amirebrahimi, Branch Chief  
Site Mitigation Program, Region 3

FROM: Guenther W. Moskat, Chief  
Planning and Environmental Analysis Section

DATE: April 10, 2003

SUBJECT: TRANSMITTAL AND REVIEW OF LEAD AGENCY ENVIRONMENTAL DOCUMENTS FOR  
Third Main Track and Seven Grade Separation - 2002041

The Department has received the project listed above. The project is being referred to you as a:

- ☒ Non-Essential/Information Item Only
- ☐ Sensitive Land Use Project
- ☐ Non-Sensitive land Use Project

A Courtesy Copy of the Notice of Completion  
Transmittal Form has also been sent to:

- ☒ Permitting Branch (document not included)

The Department is encouraged to review this project and if applicable make comments pertaining to the project as it relates to hazardous waste and/or any activities which may fall within the Department's jurisdiction. Please have your staff: 1) conduct its review of the attached document prior to the end of the comment period; 2) complete the applicable items below stating whether the department made comments or that no comments were necessary for the document; and 3) return this original transmittal sheet and a copy of any response letter from your office to:

Planning & Environmental Analysis Section (PEAS)  
CEQA Tracking Center  
1001 I Street, 22<sup>nd</sup> Floor  
P.O. Box 806  
Sacramento, California 95812-0806  
Fax (916) 323-3215

Date Comment Period Began: 04/04/2003

Comments due to OPR: 05/19/2003

Reviewed by: Antalio

Date: 05/07/03

COMMENTS have been prepared and a copy has been provided to PEAS via:

- ☒ Attached Copy
- ☐ FAX (916) 323-3215

NO COMMENTS NECESSARY because:

- ☐ All Department concerns have been adequately addressed; OR
- ☐ Project does not fall within the Department's areas of responsibility

Thank you for your assistance with this project. If you have any questions, please contact Ken Tipon, CEQA Tracking Center, at (916) 322-5266.

STATE OF CALIFORNIA

COMMENT LETTER #9

Gray Davis, Governor

## PUBLIC UTILITIES COMMISSION

320 West 4<sup>th</sup> Street, Suite 500  
Los Angeles, CA 90013



May 14, 2003

File Number: 183/19, 30/DEIR  
BNSF Triple Tracking Project  
East-West Main Line (2-Line)

California Department of Transportation, District 7  
Attn: Gary Iverson, Office Chief  
120 South Spring Street, MS 16A  
Los Angeles, CA 90012

Re: BNSF Third Main Track Project DEIR

Dear Mr. Iverson:

We reviewed the Draft Environmental Impact Report (DEIR) for the proposed Third Main Track and Grade Separation Project on the Burlington Northern Santa Fe Railway Company's East-West Main Line Railroad Track, dated March 2003, State Clearinghouse # 2002041111. This document discusses modifications to highway-rail crossings in cities of Commerce, Montebello, Pico Rivera, Santa Fe Springs, and La Mirada in Los Angeles County, and cities of Buena Park and Fullerton in Orange County. The following comments are offered for your consideration.

9-1 The Public Utilities Commission has jurisdiction over highway-rail crossings in California. California Public Utilities Code requires the approval of the Commission for constructing new or modifying existing crossings. As such, the modifications to the crossings described in the DEIR, including proposed grade separation of existing at-grade crossings, require the Commission's approval. If any at-grade crossings in the corridor considered for this project are to remain at-grade, then Commission approval is required for adding tracks. During our approval process we may require modifications to the railroad warning devices or elimination of at-grade crossings.

9-2 On page 2.3 and 2.4 of the DEIR, under Section 2.2 titled "Purpose and Use of an Environmental Impact Report", information regarding responsible agencies is provided. Please include the Commission as a responsible agency for this project. As part of its review, the Commission will consider portions of the environmental consequences of this project within its area of expertise that is subject to its discretionary approval.

**RESPONSES TO COMMENTS  
LETTER #9  
PUBLIC UTILITIES COMMISSION**

- 9-1      This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. Under present circumstances it is probable that the addition of the third main track will occur on a separate time schedule than the proposed grade separation components of the proposed project. Therefore, the PUC will be a CEQA Responsible Agency for this project and the addition of the third track will require review and approval by the PUC.
- 9-2      The PUC will be added as a CEQA responsible agency as requested in Chapter 2, Section 2.2.

March 13, 2003

Caltrans District 7  
BNSF Triple Tracking Project  
DEIR Comments

Page 2

The Commission encourages the elimination of at-grade crossings by either grade separation or closure. Therefore, we support the project that intends to eliminate eight at-grade crossings and are opposed to the no project alternative, which would keep these crossings at-grade.

9-3

Please send copies of future environmental impact reports for this project to

Michael Robertson, PE  
Senior Utilities Engineer  
California Public Utilities Commission  
320 West 4th Street, Suite 500  
Los Angeles, CA 90013-1105

If you have any questions, you may contact me at 213-576-7082 or [mdr@cpuc.ca.gov](mailto:mdr@cpuc.ca.gov).

Very truly yours,



Michael Robertson, PE  
Senior Utilities Engineer  
Rail Crossing Engineering Section

***Responses to Comment Letter #9 (continued)***

- 9-3      This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented.

COMMENT LETTER #10



# City of Commerce

May 15, 2003

Jesus M. Cervantes  
Mayor

Ray "Gordy" Cisneros  
Mayor Pro Tem

Hugo A. Argumedo  
Councilmember

Rosalina G. Lopez  
Councilmember

Nancy M. Ramos  
Councilmember

Thomas Sykes  
City Administrator

California Department of Transportation, District 7  
Attn: Gary Iverson, Office Chief  
120 South Spring Street, MS16A  
Los Angeles, CA 90012

RE: Draft Environmental Impact Report for the Third Main Track and Grade Separation Project on the BNSF East-West Main Line Railroad Track SCH #2002041111

Dear Mr. Iverson:

Thank you for allowing us the opportunity to comment on your Draft Environmental Impact Report (DEIR) regarding the third Main Track & Grade Separation Project running through parts of Commerce. We wish to offer some of the following comments:

- 10-1 1. Page 3-1 Project Objectives "B." Isn't the objective of the third track to separate freight traffic from commuter rail traffic which will possibly increase commuter train efficiency?
- 10-2 2. Page 3-10 3.2.2.2 Operations - While rail traffic from the West coast to the East will increase and freight traffic will increase, what will the State of California do to promote clean fuel locomotives in the Southern California region? Will the MOU between the California Air Resources Board (CARB) and the BNSF signed in 1998 and amended in 2000 apply to any portion of this project?
- 10-3 3. Page 4.7.2.4 Dam Inundation - If the Garvey Reservoir were to fail, water release would be towards the San Gabriel Valley to the north. The reservoir may have been repaired in the last few years thereby reducing the possibility of failure.
- 10-4 4. Page 4.8 TRAFFIC AND CIRCULATION Page 4.8-10 - Rail Traffic Growth. Will this document address the growth of truck traffic into and out of the BNSF Intermodal facilities located in Vernon and Commerce? The 2010 forecast for BNSF freight train traffic is 74 trains per day which should equate to additional street traffic on the arterials leading to all the BNSF intermodal facilities. Vehicular traffic on Sheila Street and Atlantic Boulevard would increase traffic on Washington Boulevard/I-710 would increase and traffic on the northbound and southbound I-5 in Commerce would be subject to the increases in port

2535 Commerce Way  
Commerce, CA 90040  
Phone: 323-722-4805  
Fax: 323-888-6841

*"Where Quality Service Is Our Tradition"*

**RESPONSES TO COMMENTS**  
**LETTER #10**  
**CITY OF COMMERCE**

- 10-1      There are two main objectives of the proposed project. First, although the third main track will allow some segregation of freight and passenger trains, this is not the proposed project's primary objective. BNSF train dispatchers will be able to use the additional track capacity to provide adequate train separation to maintain the flow of trains at allowed speeds through the 14.7 mile segment. The enhanced efficiency of train flow will most benefit passenger trains by facilitating their ability to meet schedules. All three tracks will be used to meet this objective. The second project objective is to install the seven grade separations to enhance safety along the 14.7 mile main line segment by separating trains from vehicle and pedestrian traffic.
- 10-2      The proposed project has no relationship to future commitments to develop and operate clean fuel locomotives. This program is on a separate track between CARB and the railroads. As the railroads, both BNSF and Union Pacific, acquire clean fuel locomotives they would be utilized along the existing BNSF main line track in the future.
- 10-3      This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented.
- 10-4      No, this document does not address the forecast for additional growth of intermodal operations at the Hobart yard in the City of Commerce. As shown on Attachment 1 of Appendix 8.2 of the Draft EIR, there are no improvements in the vicinity of the Hobart yard. The only improvements in the City of Commerce are some cross-overs, new side track and the beginning of the new third main track near Garfield Avenue in the western portion of the City. Future intermodal operations at the Hobart facility will be dictated by commercial demand, not the implementation of this project.

Letter to Gary Iverson, Dept. of Transportation-- DRAFT EIR  
May 15, 2003  
Page 2

10-5

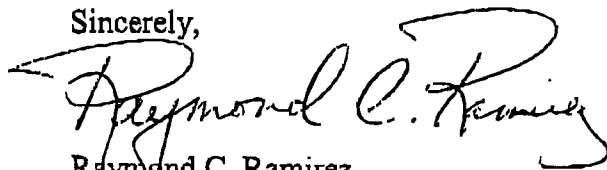
5. Page 4.8 - 17-4.8.4 Mitigation Measures that Reduce Potential Significant Impacts. The circulation system in the City of Commerce is not addressed in this DEIR. Rail related growth will have significant impacts and require mitigation measures for arterials in the vicinity of all BNSF intermodal operations located in Commerce and Vernon. On some days, truck traffic into the intermodal facilities can completely immobilize some major intersections, prevent businesses from receiving products or visitors and truck traffic headed to the rail yards has been known to back up on the I-710 Freeway causing grid lock in this area. The BNSF should be required to produce a "Master Plan" for their anticipated intermodal yard growth for the next 10-15 years.

10-6

6. Page 6-3-6.2 CUMULATIVE IMPACTS The cumulative impacts on the traffic flow in Commerce must be addressed. The Alameda Corridor EIR/EIS failed to discuss any impacts on the City of Commerce. The Alameda Corridor EIR/EIS only mentioned Commerce in two (2) maps and we are paying the price for the truck traffic created by that project. Did the Alameda Corridor reduce truck traffic on the I-710? Can CALTRANS answer this question? Will the Third Track Project increase the amount of truck traffic into the BNSF yards and cause BNSF to acquire improved properties for intermodal facility expansion? What would be the economic impacts to the city if BNSF expands? The DEIR should also address the potential socioeconomic impacts and environmental justice issues.

We thank you for the opportunity to comment on this DRAFT. If you have any questions regarding this matter please contact Mr. Robert Zarrilli, City Planner at (323) 722-4805, extension 2337.

Sincerely,



Raymond C. Ramirez

Assistant Director of Community Development

cl/letter/ra/DRAFT EIR



***Responses to Comment Letter #10 (continued)***

- 10-5 This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. The need to address local circulation system effects of future intermodal growth at the Hobart yard and to prepare a "Master Plan" for intermodal yard growth is not related to the proposed project and should be pursued by the City under alternative avenues.
- 10-6 See response to comment 10-5. The Alameda Corridor project was a complete separate project from the proposed BNSF Third Main Track and Grade Separations project. Also, for more information on other project, including intermodal, please refer to the introduction to responses to Letter #17. The third main track project will not cause any increase in traffic within the City of Commerce. The increase in traffic is related to increases in commercial shipping activity within the Los Angeles basin which are forecast to occur independent of the proposed project, which includes an additional track within the 14.7 mile segment of the main line corridor and seven grade separations to be implemented independently in the future. Several studies have forecast commercial shipping requirements to grow substantially in the future which is the primary cause of the increased traffic on the local circulation system. The projects being considered in this document have no relationship to future BNSF actions at its intermodal facilities, i.e., this project will have not effect on freight traffic growth in or out of the Hobart yard. Without any projects being defined, any consideration of such future actions would be speculative and beyond the ability of this project's EIR to address.

## COMMENT LETTER #11

17/5/03

Dear Gary Iverson &amp; Colleagues,

RE: COMMENTS ABOUT BNSF Third Track &amp; Grade Separation DEIR (SCH# Z002041111)

- 11-1 This DEIR is generally well done, complete, and interesting, except for: SPEED,
- 11-2 1) Obviously, the Third Track is designed to INCREASE train frequency, noise, vibration, air pollution, and nuisance. Why not admit it?
- 2) Figure 3 Maps are fuzzy and illegible. We need sharp, detailed maps and drawings.

Yours truly,

Richard A. Stromme

P.O. Box 162

Santa Ynez, California 93460

PR: 805-688-3145

- 11-3 P.S. Please place my name on your mailing list to receive documents about railroad, rapid transit, and streetcar projects.

**RESPONSES TO COMMENTS**  
**LETTER #11**  
**RICHARD A. STROMME**

- 11-1      This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. Actually, air pollution should be substantially reduced by implementing this whole project. Please refer to Subchapter 4.2 which describes the reason for enhanced air quality from implementing the proposed project. Regarding noise and vibration some non-significant increases in these parameters are forecast to result from implementing the project. See Subchapter 4.9 for details. This project will not increase train frequency, which is determined independently by commercial demand. Finally, maximum train speeds along the corridor will remain the same. However, with the more efficient flow of trains through the corridor the average speeds of trains may increase.
- 11-2      This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. Please refer to Figure 3 a-g for more detailed maps of the project location. For more detail refer to the detailed track schematics in Subchapter 8.2.
- 11-3      For those individual project components encompassed under this project (third main track and seven grade separations), your name can be retained and future documents made available for your review and consideration. Regarding other rail, rapid transit and streetcar projects, it is suggested that you contact the Southern California Regional Railroad Authority (SCRRA) and get your name on their list.



## COMMENT LETTER #12

May 19, 2003

Mr. Gary Iverson, Office Chief  
California Department of Transportation  
District 7  
Mail Stop 16A  
120 South Spring Street  
Los Angeles, California 90012

Re: Response to EIR for the Third Main Track and Grade Separation Project on the Burlington Northern Santa Fe Railway Company East-West Main Line Railroad Track SCH #2002041111

Dear Mr. Iverson:

Thank you for including the Southern California Edison Company (Edison) in the review process for the above-referenced project.

12-1 [ The Third Main Track and Grade Separation Project on the Burlington Northern Santa Fe Railway's East-West Main Line Railroad Track is located within the service territory of Edison. The construction of railroad track improvements and seven grade separation projects will cause impact to the environment which may cause relocation of Edison facilities at the grade separation crossings.

12-2 [ Relocation of Edison's electrical facilities are constructed to a permanent basis in the most cost efficient manner. Subsequent moves of facilities may be performed at a cost borne by the requesting party.

12-3 [ Where Edison facilities enjoy superior rights, Edison will bill and collect for the associated design and construction costs for those facilities. Permits, fees and easements needed as a result of this project will be provided at no cost to Edison by the requestors of the utility relocation.

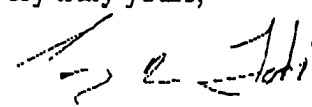
12-4 [ It is Edison's design and construction policy to relocate facilities on a one time basis to a permanent location. Should any relocation to a temporary location be requested, all costs associated with that move will be borne solely by the requesting entities. A request for plant betterment will be at the cost of the requesting entities. An example of plant betterment would be relocating electric aerial facilities to underground. Time considerations may be necessary for special design items, such as steel poles which take up to 9-12 months to order.

12-5 [ It is imperative that there is agreement between all parties to ensure timely delivery of our projects.

12-6 [ Edison appreciates cooperation, communication and coordination with the requesting entities of any relocations with as much lead time to take care of these matters and ensure project delivery.

[ We are committed to providing the most cost effective design and construction while continuing to provide quality electric service to our customers.

Very truly yours,

  
Larry R. Todd  
Compliance Manager

**RESPONSES TO COMMENTS**  
**LETTER #12**  
**SOUTHERN CALIFORNIA EDISON**

- 12-1 This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. The project description contains a discussion for each project component, and relocation or encasement of utilities existing within the project's area of potential impact is identified as one of the steps in the construction process. For example, see page 3-6 for a discussion of this construction component of the project.
- 12-2 This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. The project team has been meeting with the various utilities that have facilities within the project's area of potential impact (for both the third main track and the individual grade separations) and designs and costs for relocation have been incorporated into the engineering design and cost estimates for the proposed project.
- 12-3 This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented.
- 12-4 This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented.
- 12-5 This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. As noted under response to comment 12-2, planning efforts have already been initiated to develop mutually agreeable solutions to utility relocations.
- 12-6 This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented.

## COMMENT LETTER #13



**County of Orange**  
**Planning & Development Services Department**

300 N. FLOWER ST.  
SANTA ANA, CALIFORNIA

MAILING ADDRESS:  
P.O. BOX 4048  
SANTA ANA, CA 92702-4048

NCL 03-044

May 19, 2003

Mr. Gary Iverson, Office Chief  
California Department of Transportation, District 7  
120 South Spring Street, MS 16A  
Los Angeles, CA 90012

**SUBJECT: DPEIR for the Third Main Track and Seven Grade Separations on the Burlington Northern Santa Fe (BNSF) Railway Company's East-West Main Line Track**

Dear Mr. Iverson:

The above referenced item is a Draft Program Environmental Impact Report (DPEIR) for the California Department of Transportation (DOT). The proposed project extends from the City of Commerce (Hobart-MP 148.6) about 14.7 miles south to the City of Fullerton (Basta Station-MP 163.3). Affected jurisdictions include Los Angeles and Orange Counties and the Cities of Buena Park, Commerce, Fullerton, La Mirada, Montebello, Norwalk, Pico Rivera, and Santa Fe Springs. The project involves construction and utilization of railroad track improvements (a new third track and supporting infrastructure) and seven grade separations along the above referenced 14.7-mile segment of the Burlington Northern Santa Fe (BNSF) Railway Company's East-West Main Line Railroad Track.

The County of Orange has reviewed the DEIR and offers the following comments:

**FLOOD**

- 13-1
1. As previously mentioned in our Notice of Preparation review dated May 21, 2002, the railway alignment crosses three Orange County Flood Control District (OCFCD) facilities, namely, (a) Coyote Creek Channel (A01); (b) Brea Creek Channel (A02); and (3) Fullerton Creek Channel (A03). These facilities may not have been designed to accommodate loading resulting from the new track, its support facilities and future train traffic volume. The effect of such loading on OCFCD's structures should be analyzed by the project proponent, and any adverse impacts of such loading on OCFCD's structures

**RESPONSES TO COMMENTS**  
**LETTER #13**  
**COUNTY OF ORANGE**  
**PLANNING & DEVELOPMENT SERVICES DEPARTMENT**

- 13-1      This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. The Hanson Wilson and HDR engineering teams has consulted with County staff regarding the acceptable loadings on the Orange County Flood Control District (OCFCD) flood control structures and has incorporated these structural issues in the bridge designs at the three referenced channels. Appropriate design mitigation has already been incorporated into the structures and this information has been and will continue to be provided to the District staff to reach mutual agreement on the bridge designs before construction proceeds.

- 13-1  
cont.      should be appropriately mitigated in consultation with the County's Flood Control Division.
- 13-2      2. Existing hydraulic conditions at OCFCD facilities under the BNSF railroad tracks should not be worsened as a result of the project. Modifications to the channels (e.g. construction of additional piers) should be analyzed and any adverse impacts to the channels mitigated as part of the project in consultation with the County's Flood Control Division.
- 13-3      3. The Coyote Creek Channel under the BNSF railroad tracks in the City of Buena Park is currently incapable of conveying approved 100-year design discharge. The project proponent should analyze and improve this deficient channel reach as part of the proposed project, in consultation with the County's Flood Control Division, to provide the 100-year conveyance based on current County criteria to ensure that the proposed project will have adequate flood protection in a 100-year storm event.
- 13-4      4. If this deficient channel reach is not improved, the project proponent should acknowledge that if, at some future date, it becomes necessary to improve this channel reach, removal and reconstruction of the railroad tracks and appurtenant structures above the channel will be needed at the expense of the project proponent.
- 13-5      5. Mitigation Measure 4.7-4 states, "If facilities are constructed in a flood zone, the facility will be brought to a level above flood hazards, or hardened against flood related impacts. Additionally, if facilities must be located within floodplains or hazard areas, a flood management program to minimize impacts to people and surrounding property shall be created and implemented for each facility that may occur within these hazard areas." The flood management program should be prepared in consultation with the respective City that is responsible as administrator of areas within its municipal boundaries and the County Flood Control Division when the areas fall within unincorporated County of Orange.
- 13-6      6. As part of this project, Letters of Map Revision (LOMR) should be processed by project proponent via Federal Emergency Management Agency (FEMA) and in consultation with affected City and OCFCD when within existing floodplains.
- 13-7      7. All work within the OCFCD right-of-way will require encroachment permits from the County's Public Property Permits Section. Information regarding permit applications may be obtained from Doug Witherspoon at (714) 834-2366.
- 13-8      8. The project proponent should coordinate with the respective City that has jurisdiction over local storm drain facilities that will be impacted by the proposed project.
- 13-9      9. Per Cooperative Agreement No. 97-069 (Agreement) between BNSF and OCFCD, dated February 2, 1999 (copy attached), BNSF is obligated to provide OCFCD with a permanent easement covering improvements to Brea Creek Channel as stipulated in item 19 of Article III of said Agreement. This has not been fulfilled to date. BNSF should be



***Responses to Comment Letter #13 (continued)***

- 13-2 The proposed bridge designs over the referenced facilities do not incorporate any modifications in channels, so the potential for conflict with existing structures is considered negligible. Note that the project engineers, Hanson Wilson and HDR provided detailed drainage reports for the proposed project facilities and the findings of these reports were summarized in the Draft EIR. Copies of the drainage studies are available for OCFCD review upon request, if the District has not yet had an opportunity to review them.
- 13-3 This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. Please refer to response to comment 13-2. The project engineers are aware of the limitations of Coyote Creek Channel in the City of Buena Park. Drainage analyses have been prepared for each of the project components and the District's Flood Control Division has consulted with the Staff regarding this issue. Residual flood hazards are not worsened by the proposed bridge design over this channel.
- 13-4 This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. Caltrans and BNSF do not concur with this conclusion. As long as BNSF does not negatively alter the existing Coyote Creek Channel any future flood control improvements by local agencies will have to take into consideration the BNSF right-of-way which was established prior to OCFCD and its easements.
- 13-5 This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. Based on the proposed designs, Caltrans and BNSF do not envision causing any adverse impacts to existing flooding hazard situations. However, if flood management programs are required in the future for any of the individual project components, then the program will be prepared in consultation with the affected City or the County, as appropriate.
- 13-6 This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. Where required, LOMR will be processed by the entity implementing the individual project components in the future.
- 13-7 This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. As individual project components are implemented in the future that encroach on OCFCD right-of-way, applications will be submitted and process through the Public Property Permits Section.

***Responses to Comment Letter #13 (continued)***

- 13-8 Initial coordination has been initiated with the respective City's and input has been incorporated into the engineering design documents. As specific project components are implemented in the future final coordination will be implemented in accordance with this recommendation.
- 13-9 The Brea Creek Channel permanent easement is not a part of this project; however, the request in this comment has been forwarded to BNSF Staff for their action.

13-9  
cont.

requested to fulfill its obligation per terms specified in item 19 of Article III of the Agreement.

## OPEN SPACE/RECREATION

### Location/Place Names:

13-10

10. Pages 2-1 and 3-1; for the benefit of those who are not familiar with railroad location terminology (such as "Basta", which is apparently short for Bastanchury), please provide the street name that marks the endpoint of the project in Orange County. It appears from comparing railroad lines in the Thomas Guide to Figure 3-1 that Commonwealth Avenue is the endpoint. However, in Figures 3-2f and 3-2g it appears the project extends to State College Boulevard. Please explain the location clearly on pages 2-1 and 3-1.

13-11

11. Page 3-4 and throughout the text; please refer to Mile Post 157.5 as "North Fork Coyote Creek" to avoid confusion with "Coyote Creek" in Buena Park. Also, please identify Mile Post 160.9 as Brea Creek.

### Bikeways:

13-12

13. The Orange County Transportation Authority's Strategic Plan for regional bikeways identifies three proposed Class I (paved off-road) bikeways in the project vicinity:
- A. Coyote Creek Bikeway: Follows Coyote Creek/San Gabriel River from Imperial Highway in Orange County to the ocean.
  - B. Malvern Bikeway: Follows the south side of Malvern Avenue.
  - C. Fullerton Rail Bikeway: Follows the Main Track eastward, then turns south to the Anaheim city limits.

13-13

Currently the Coyote Creek Bikeway exists between the ocean and Valley View Street in Buena Park. The City of La Habra is working to complete a 3/4-mile segment of the bikeway. The remaining (proposed) segment of the bikeway passes through Buena Park and La Mirada. If Coyote Creek railroad bridge in Buena Park is to be modified as part of the project, an under crossing must be provided for the proposed Coyote Creek Bikeway. Typically a Class I bikeway is 16 feet-wide. This includes 10 feet of bikeway tread and 3 feet of clearance on each side (See Cal-trans Highway Design Manual, Chapter 1000). Also, 12-feet of vertical clearance should be provided.

The Malvern Bikeway is partially built and is proposed to end just east of the Main Line tracks, since there has been no way to under cross the tracks at Brea Creek. We suggest and would appreciate the provision of an under crossing for the bikeway, if possible, to help connect north Orange County residents to the ocean via the Coyote Creek Bikeway, a major regional, off-road route.

***Responses to Comment Letter #13 (continued)***

- 13-10 Your comment is correct. Figure 3-2g depicts the endpoint of the third main track construction as ending at State College Boulevard. The actual end point is just past the main track/Commonwealth Avenue intersection, which is shown on Figure 3-2f. Figure 3-2f and the text of the Final EIR (Pages 2-1 and 3-1) have been revised to show the correct eastern endpoint of the project. A copy of the revised map, Figure 3-2f follows the responses to the County's comments.
- 13-11 The requested changes will be incorporated into the Final EIR.
- 13-12 This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. BNSF will attempt to incorporate the bikeway design requirements in its design, but this may not be technically feasible. Prior to constructing the Coyote Creek bridge, BNSF and Caltrans will confer with the OCTA to assess the technical and economic feasibility of this request and implement the bikeway if it is feasible.
- 13-13 This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. Please refer to response to comment 13-12. The same effort will be implemented for the Malvern Bikeway.

13-14

The Fullerton Rail Bikeway is proposed to start in La Habra, follow the Union Pacific Railroad right-of-way along Bastanchury Road, turn east and follow the Main Line right-of-way to the Metrolink connection. If there is adequate width, the project should not preclude the future construction of this off-road bikeway.

## WASTE MANAGEMENT

### Waste Diversion

13-15

14. When structures such as buildings, surface parking and sidewalks are demolished as part of the initial site preparation phase for a project, demolition wastes are generated. The proposed project will result in the generation of demolition wastes. Demolition-generated wastes consist of heavy, inert materials such as concrete, asphalt, rock and soils, wood, drywall, plaster, metals and brick. These materials create significant problems when disposed of in landfills; since demolition wastes do not decompose, they take up valuable landfill capacity. Additionally, since demolition wastes are heavy when compared with paper and plastic, it is more difficult for jurisdictions to reduce the tonnage of disposed waste. For this reason, demolition waste debris has been specifically targeted by the State of California for diversion from the waste stream. Projects that will generate demolition waste should emphasize deconstruction and diversion planning, rather than demolition. Deconstruction is the planned, organized dismantling of existing buildings and structures on a project site, which allows maximum use of the deconstructed materials for recycling and limits disposal at solid waste landfills. The recycling coordinator for Caltrans can provide the names and locations of recycling facilities in the project area that will accept these wastes.

13-16

During the construction of new projects, construction wastes are generated. The proposed project will result in the generation of construction wastes. Construction-generated wastes consist primarily of inert materials that would otherwise take up valuable landfill space. Reducing construction wastes at construction sites conserves landfill space, reduces the environmental impact of producing new materials, and can reduce overall building project expenses through avoided purchase/disposal costs. Construction-generated wastes can be reused in other construction projects or recycled. Contractors should also consider collecting pallets and crates that building materials and equipment are shipped in. There are usually several businesses listed in the phone directories, under "pallets" or "skids" that collect and manufacture pallets. The recycling coordinator for Caltrans can provide the names and locations of recycling facilities in the project area that will accept construction wastes.

We recommend that this project address a waste reduction plan for the demolition and construction wastes generated from this project.

### Unacceptable Materials

13-17

15. Demolition-generated waste from the proposed project may contain contaminated soils, asbestos, lead-based paints, fluorescent lamps and ballasts, or other hazardous materials.

***Responses to Comment Letter #13 (continued)***

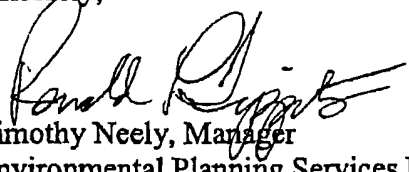
- 13-14 This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. BNSF and Caltrans will examine the potential width of this proposed bikeway alignment and determine whether it is feasible. If so, the design may be modified to address this future off-road bikeway.
- 13-15 This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. Deconstruction and recycling of the maximum amount of demolition waste is assumed in the environmental document for this project. Please refer to page 45 of Appendix 8.1, the Initial Study for the proposed project. Commitments are made to recycle construction and demolition waste to the extent feasible for the proposed project.
- 13-16 Please refer to response to comment 13-15. The project already includes a commitment to recycle construction and demolition waste to the extent feasible. As one of the contract stipulations for construction of these projects, the specific agency implementing project component will require the preparation and implementation of a waste reduction plan. This plan will be reviewed by Caltrans prior to implementing construction.
- 13-17 Mitigation measures 4.6-1 and 4.6-2 address the specific concerns which hazardous, toxic or contaminated materials related to this project's implementation. All of the materials listed in this comment, will be appropriately managed as hazardous materials and will be disposed of at appropriately licensed landfills or recycling facility.

13-17  
cont.

Orange County solid waste landfills are not permitted to accept these waste materials. In addition, Orange County solid waste landfills are not permitted to accept waste contaminated with toxic or hazardous materials, or waste having the moisture content greater than 50%. During the demolition phase of the proposed project, if contaminated soils, asbestos, lead-based paints, fluorescent lamps and ballasts, hazardous materials or liquids are discovered, then these materials must be transported to facilities that are permitted to accept them. If additional clarification is needed, please contact a County Materials Regulation Specialist at (714) 834-4000.

Thank you for the opportunity to respond to the DPEIR. If you have any questions, please contact Charlotte Harryman at (714) 834-2522.

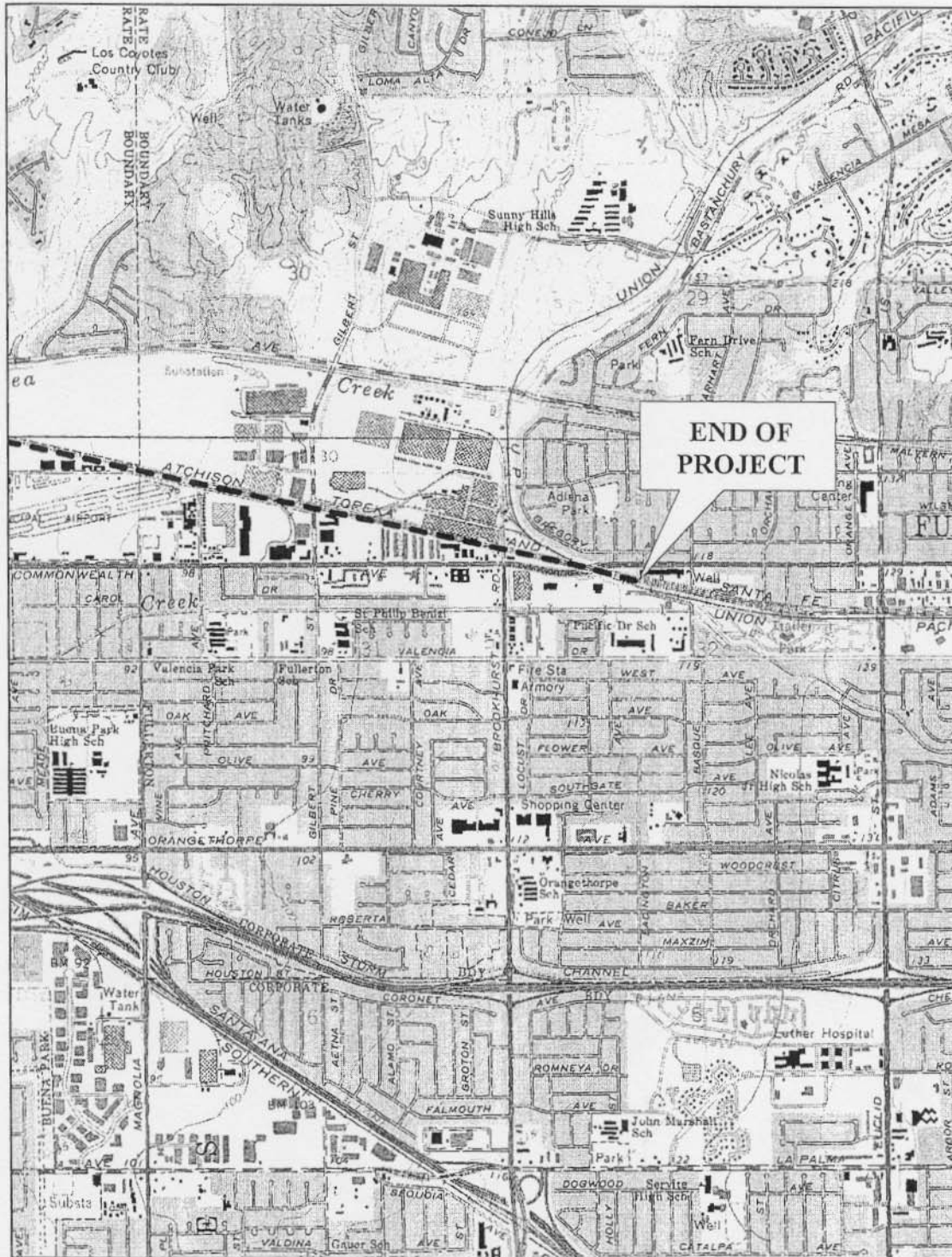
Sincerely,

*for*   
Timothy Neely, Manager  
Environmental Planning Services Division

Attachment

ch

**FIGURE 3-2f**  
**Site Location**



---- THIRD RAILROAD TRACK

Source: DeLorme Xmap 3.0

**Tom Dodson & Associates**  
Environmental Consultants



**BNSF ORIGINAL**

Agreement No. 97-069

BNSF Secy. Cont. No:

05001519

Brea Creek Channel

AGREEMENT, made this 2nd day of February 199<sup>9</sup>, between THE BURLINGTON NORTHERN AND SANTA FE RAILWAY COMPANY, a Delaware corporation, hereinafter referred to as "BNSF", and the ORANGE COUNTY FLOOD CONTROL DISTRICT, a body corporate and politic of the State of California, hereinafter referred to as "District".

**RECITALS:**

BNSF owns and operates a line of railroad in and through the County of Orange, State of California, consisting of two main line tracks which cross the Brea Creek Channel, hereinafter referred to as "Channel", at BNSF's Third District Mile Post 160.9 by means of a prestressed concrete structure known as the "North Main Track Bridge" and a timber trestle structure known as the "South Main Track Bridge".

The parties hereto entered into an agreement dated July 16, 1984, identified in BNSF's records as Secretary's Contract No. 170388, which provided for the replacement of the then existing North Main Track Bridge with a new prestressed concrete bridge on new alignment. This agreement relieves District from the responsibility and expense to construct a shoofly at a future time, if the District should choose to construct two bridges at or near the location of the North and South Main Tracks as they existed on the effective date of said agreement. The term shoofly, as referenced in said agreement, refers to any and all track work, including placing of the track embankment or other track grading, required only for the reconstruction of the existing South Main Track bridge. The second bridge of the "two bridges" referred to in said agreement contemplates the future construction of a Third Main Track Bridge.

District proposes to improve said Channel from approximately 200 feet upstream of Beach Boulevard to 400 feet upstream of Dale Street within the City of Buena Park in order to convey a 100-year discharge.

The improvement of said Channel necessitates the removal of BNSF's existing South Main Track Bridge and the construction of a replacement prestressed concrete bridge structure on new alignment as shown on Exhibit "A", dated March 14, 1997, attached hereto and by reference made a part hereof.

The term "Project" as used in this agreement shall include all work of every kind and character required in connection with construction of either Alternate No. 1 or Alternate No. 2 (as hereinafter defined in Section 1 of Article II), including the improvement of said Channel, and the removal of said South Main Track Bridge including, but not limited to, any and all changes to telephone, telegraph, signal and electrical lines and appurtenances. The term "Structure" as used in this agreement shall mean the proposed replacement bridge for the South Main Track, as constructed. Once the replacement bridge (the new "South Main Track Bridge") is completed, the term "Structure" shall include both the North Main Track Bridge and the new South Main Track Bridge. If, and at such time as, a Third Main Track Bridge is constructed, the term "Structure" shall include said Third Main Track Bridge.

The parties hereto desire to express in writing their understanding and agreement with respect to the Project and pursuant to which the Structure is to be constructed and maintained.

**AGREEMENT:****ARTICLE I**

IN CONSIDERATION of the covenants of the District hereinafter set forth, and the faithful performance thereof, BNSF agrees as follows:

1. To grant, and hereby does grant, to the District, its successors and assigns, upon and subject to the terms and conditions hereinafter set forth, permission and license to enter upon and use that portion of BNSF's right of way as is necessary to construct said Project, and thereafter maintain said Channel Improvements as shown on said Exhibit "A", excepting and reserving the right to be exercised by BNSF, and by any others who have obtained, or may obtain, permission or authority from BNSF so to do:

(a) To operate, maintain, renew and/or relocate any and all existing railroad track or tracks, wires, pipelines and other facilities of like character upon, over or under the surface of said right of way;

(b) From time to time to construct, operate, maintain, renew and/or relocate upon said right of way additional facilities of the character described in Subsection (a) of this Section 1.

This right is given by BNSF without warranty of title of any kind, express or implied, and no covenant of warranty of title shall be implied from the use of any word or words herein contained. In case of the eviction of District by anyone owning, or claiming title to or any interest in said right of way, BNSF shall not be liable to District for any damage of any nature whatsoever. The granting of similar rights to others, subsequent to the date of this agreement, will not impair or interfere with the rights herein granted to District.

2. To furnish all labor, materials, tools, and equipment, and do railroad work required due to the construction of the Project, such railroad work and the estimated cost thereof being as shown in Exhibit "B" attached hereto and made a part hereof. Any item of work incidental to those items listed in said Exhibit "B", but not specifically mentioned therein, may be included as part of this agreement as an item of work upon written approval of District, if practicable. Construction of the Project shall include the following work by BNSF:

(a) Furnishing of such watchmen and flagmen as may be necessary for the safety of BNSF's property and the operation of its trains during construction of the Project;

(b) Furnishing of engineering and inspection as required in connection with the construction of the Project;

(c) Making such changes in the alignment, location and elevation of its telephone, telegraph, signal and/or wire lines and appurtenances along, over or under its tracks, both temporary and permanent, as may become necessary by reason of the construction of the Project;

(d) Removal of that portion of its South Main Track from the present bridge and approaches thereto so that District's contractor may remove the existing South Main Track Bridge;

(e) Lining over and constructing portions of the relocated South Main Track;

(f) Removal of track material released from existing South Main Track.

3. To do all work provided in Article I, Section 2 above with its own employees working under Railroad Labor Agreements or by contractor(s), if necessary, and on an actual cost basis.

4. To submit to District, upon completion of the Project, a detailed statement covering the cost of the work performed by BNSF, segregated as to labor and materials.

## ARTICLE II

IN CONSIDERATION of the covenants of BNSF herein set forth and the faithful performance thereof, District agrees as follows:

1. To notify BNSF, within thirty (30) days following District's receipt of the contractors bids for the work contemplated and described herein, of its election pursuant to the terms of the agreement dated July 16, 1984, to construct at its sole cost and expense either (1) a replacement South Main Track Bridge, including all track work and related track embankment or other track grading associated therewith (hereinafter referred to as "Alternate No. 1), or (2) a replacement South Main Track Bridge, excluding the cost of the track work and related track embankment or other track grading associated therewith, and a Third Main Track Bridge (hereinafter referred to as "Alternate No. 2").

2. To furnish to BNSF plans and specifications for said Channel improvement portion of the Project. Four sets of said plans, together with two copies of calculations, and two copies of specifications, shall be submitted to BNSF for approval prior to commencement of construction. BNSF has provided District with the plans and specifications for the existing North Main Track Bridge, BES 156, which plans and specifications shall be used for the construction of the new South Main Track Bridge, as well as the Third Main Track bridge structure. After having been approved by both District and BNSF, said plans and specifications are hereby adopted and incorporated into this agreement by reference.

3. To make any and all arrangements to secure the location or relocation of wire lines, pipe lines and other facilities owned by private persons, companies, corporations, political subdivisions or public utilities other than BNSF which may be found necessary to locate or relocate in any manner whatsoever due to the construction of the Project. Notwithstanding the foregoing, BNSF agrees to exercise reasonable efforts to assist the District to cause the relocation of such facilities at the expense of the owner of such facilities in accordance with the terms of any license agreement which may be currently in effect covering such facilities.

4. To construct the Project as shown on Exhibit "A", and do all work provided for in the plans and specifications for the Project, including the removal of the existing South Main Track Bridge, except such work that BNSF herein agrees to do.

5. To include in its contract for the construction of the Project, as a deletable item, the cost of constructing a third prestressed concrete bridge at the approximate location of the existing South Main Track Bridge. District shall also include in its contract for the construction of the Project, as a deletable item, the cost of constructing the substructure portion only (abutments and piers) of said third prestressed concrete bridge. In the event District elects to proceed with Alternate No. 1, BNSF reserves the right, in its sole and absolute discretion, to include the construction of a third prestressed concrete bridge or the construction of the substructure portion of said third prestressed concrete bridge as part of Alternate No. 1, with 100% of the cost associated therewith to be borne by BNSF.

6. To notify BNSF in writing, in the event District elects to proceed with said Alternate No. 1, of the amount of the Contractor's bid prices, segregated for the construction of said third prestressed concrete bridge with a separate bid price covering the construction of the substructure portion (abutments and piers) for said third prestressed concrete bridge. BNSF will inform the District within thirty (30) days following the

date of BNSF's receipt of the District's notification of the bid prices of what portion, if any, of said third prestressed concrete bridge that BNSF elects to have included as a part of said Alternate No. 1.

7. To furnish, or cause to be furnished by the District's contractor, all labor, materials, tools, and equipment in performing the work it agrees to perform herein. That all construction work, with, respect to said Project, to be undertaken by District, or District's contractor shall be performed at such times as shall not endanger or interfere with the safe and timely operations of BNSF's tracks and other facilities.

8. To require its contractor(s) to notify BNSF's Roadmaster at least thirty (30) business days in advance of commencing work on BNSF property or near BNSF's tracks, when requesting a BNSF flagman in accordance with the requirements of Exhibit "C" attached hereto, in order to protect BNSF from damage to its trains and property.

9. To require its contractor(s) to furnish BNSF's Assistant Director Public Projects, for approval, four copies of plans and two sets of calculations of any shoring or cribbing proposed to be used over, under, or adjacent to BNSF's tracks. The use of such shoring or cribbing shall conform to the standard side clearance set forth in the requirements of the Public Utilities Commission of the State of California (hereinafter referred to as the "Commission") which govern such clearance. In case the use of such shoring will impair said clearance, District will ensure that application is made to the Commission for approval of such impairment during the period of construction of the Project.

10. To incorporate in each prime contract for construction of the Project, or the specifications therefor, the provisions set forth in Exhibits "C" and "C-1", attached hereto and by reference made a part hereof.

11. That, except as hereinafter otherwise provided, all work to be performed hereunder by District in the construction of the Project will be performed pursuant to a contract or contracts to be let by District, and all such contracts shall provide:

(a) That all work performed thereunder, within the limits of BNSF's right of way shall be performed in a good and workmanlike manner, and in accordance with plans and specifications approved by BNSF. Those changes or modifications during construction that affect safety or BNSF's operations shall also be subject to BNSF's approval;

(b) That no work, including the construction of this Project and/or any subsequent maintenance, shall be commenced within BNSF's right of way until each of the prime contractors employed in connection with said work shall have (i) executed and delivered to BNSF a letter agreement in the form of Exhibit "C-1", and (ii) delivered to and secured BNSF's approval of the insurance required by Exhibit "C-1";

(c) That District shall supervise the operations of all District Contractors, subject to BNSF's right to approve the qualifications of all District inspection personnel used to inspect facilities to be constructed for BNSF as a part of said Project, which approval shall not be unreasonably withheld. Furthermore, if at any time during construction, BNSF discovers that any District inspection personnel are not properly inspecting the construction of BNSF facilities, BNSF shall have the right to request District to arrange for the immediate replacement of the inspection personnel who are not performing proper inspections.

(d) That if, in District's opinion, it shall be for its best interest, District may direct that the construction of the Project be done by day labor under the direction and control of District, or if at any time, in the opinion of District, the contractor has failed to prosecute with diligence the work specified in and by the terms of said contract, it may, in the manner provided by law, terminate the contractor's control over said work and take

possession of all or any part thereof and proceed to complete the same by day labor or by employing another contractor(s), provided that all such contractor(s) shall be required to comply with the obligations in favor of BNSF hereinabove set forth in this Section 11 of Article II and, provided further, that if such construction is performed by day labor, District will, at its expense, procure and maintain on behalf of BNSF the insurance required by Exhibit "C-1".

12. To advise BNSF's Assistant Director of Public Projects, in writing, of the completion date of the Project within thirty (30) days after such completion and to notify BNSF's Assistant Director Public Projects, in writing, of the date on which District and/or its Contractor will meet with BNSF for the purpose of making final inspection of the Project.

### ARTICLE III

IN CONSIDERATION of the premises, it is mutually agreed as follows:

1. That all work contemplated in this agreement shall be performed in a good and workmanlike manner, and each portion shall be promptly commenced by the parties hereto obligated to do the same and thereafter diligently prosecuted to conclusion in its logical order and sequence. Furthermore, any changes or modifications during construction that affect BNSF shall be subject to BNSF's approval prior to commencement of such changes or modifications.

2. That such work shall be done in accordance with detailed plans approved by BNSF and subject to the Commission's approval, with minimum clearances of not less than those specified by the Commission, or as otherwise authorized by the Commission for BNSF's tracks at this location.

3. No construction activities nor future normal or routine maintenance activities which pertain to said Channel and which are located within the area above the top of tie and a line measured twenty five (25) feet from the centerline of BNSF's tracks will be permitted without receiving BNSF's prior permission and a BNSF flagman is present to protect for such activities. It is further agreed that trains cannot be subjected to delay during said construction or future normal or routine maintenance activities. Notwithstanding the foregoing, District and/or its contractors may undertake emergency maintenance work upon prior notification to BNSF. District agrees to reimburse BNSF for the cost of all flagman expense that may be required to protect for such activities.

4. It is expressly understood that the right to install utilities, with the exception of a BNSF owned facility, is restricted to the placement of underground utilities beneath said Channel surface or a minimum of fifty (50) feet from abutments, piers, piles, or footings. Under no circumstances will utilities be allowed to hang from said Structure. All utility crossings within the limits of the licensed area will be covered by separate agreements between BNSF and each of the owners of the utilities.

5. District shall require its contractor to reasonably adhere to the District's construction schedule for all Project work. The parties agree that BNSF's failure to complete Railroad work in accordance with the construction schedule will not constitute a breach of this Agreement by BNSF and will not subject BNSF to any liability, when due to inclement weather or unforeseen railroad emergencies. Regardless of the requirements of the construction schedule, BNSF reserves the right to reallocate its labor forces, assigned to complete Railroad work, in the event of an emergency when BNSF believes such reallocation is necessary to provide for the immediate restoration of railroad operations of BNSF or its related railroads or to protect persons or property on or near any BNSF owned property. BNSF will not be liable for any additional costs or expenses of the Project resulting from any such reallocation of its labor forces. The parties agree that this reallocation of labor forces by BNSF and any direct or indirect results of such reallocation will not constitute a breach of this Agreement by BNSF.

6. Contract change orders for work on either said South Main Track Bridge or Third Main Track Bridge shall be subject to the review and approval of BNSF, and such approval shall not be unreasonably withheld. The cost of any change order for work on either of said bridges shall be paid for by BNSF or District in accordance with the other provisions of this Agreement segregating cost responsibility pursuant to the terms of Alternate 1 or Alternate 2.

7. That the District will bear the entire cost and expense incurred in connection with the construction of the Project, with the exception that BNSF will pay the cost of all track work including placing of the track embankment or other track grading should the District elect to proceed with Alternate No. 2. If the District should elect to proceed with Alternate No. 1, and BNSF elects to have District's contractor construct a third prestressed concrete bridge or the substructure portion thereof, said third prestressed concrete bridge shall be at BNSF's sole cost and expense pursuant to Article II, Section 5 hereof.

8. The procedures for payments and credits for the construction Alternates described in Article II, Section 1 and Section 5, shall be as follows:

(a) If Alternate No. 1 is selected by the District, and BNSF elects to have District's contractor construct a third prestressed bridge or the substructure portion thereof, the cost shall be apportioned as follows:

(i) If the actual cost to BNSF to perform the track work exceeds the actual cost to the District for having the District's contractor construct a third prestressed bridge or the substructure portion thereof, then District shall pay to BNSF the difference in cost;

(ii) If the actual cost to the District for having the District's contractor construct a third prestressed bridge or the substructure portion thereof, exceeds the actual cost to BNSF to perform the track work, then BNSF shall pay the District the difference in cost;

(iii) Should BNSF elect not to have the District's contractor construct a third prestressed bridge or the substructure portion thereof, then District shall pay BNSF the actual cost to perform the track work.

(b) If Alternate No. 2 is selected by the District, the actual cost of the track work plus the District's actual cost to place approximately 2500 cubic yards of backfill embankment located beyond the District backfill limit shall be born by BNSF. The District's back fill limit line depicting the separation of backfill cost responsibility, is shown on Exhibit "D" attached hereto and made a part hereof.

(c) All cost for BNSF flagmen required to protect District's contractor's work on BNSF property, shall be born by BNSF.

(d) BNSF and District shall provide each other detailed monthly cost statements for work performed at their respective cost for bridge structure or track work for the duration of work within BNSF right of way.

(e) In either Alternate, reimbursement for actual costs for which the other party is responsible shall be paid within 90 days of completion of the Project. District shall notify BNSF of the Projects completion date pursuant to Article II, Section 12.

9. That the construction of the Project, within BNSF property, shall not be commenced by District's contractor until District shall have given not less than thirty (30) days prior written notice to BNSF's Assistant

Director Public Projects, making reference to BNSF's file number 05001519, which notice shall state the time that operations for construction of the Project shall commence.

10. That after completion of the construction of the Project as hereinabove described:

(a) BNSF will, at its sole cost and expense, maintain its roadbed, track, railroad drainage, the Structure and all other railroad facilities;

(b) District will own and, at its sole cost and expense, maintain said Channel and related appurtenances.

11. Before entering upon BNSF's right of way for maintenance purposes, District shall notify BNSF's Assistant Director Public Projects to obtain prior authorization. If work is contracted, District shall require its prime contractor(s) to comply with the obligations in favor of BNSF, set forth in Exhibits "C" and "C-1", as may be revised from time to time, and accepts responsibility for compliance by its prime contractor(s).

12. District shall indemnify and save harmless BNSF, its agents and employees, against all liability, claims, demands, damages, or costs for (a) death or bodily injury to persons including, without limitation, the employees of the parties hereto, (b) injury to property including, without limitation, the property of the parties hereto, (c) design defects, or (d) any other loss, damage or expense arising under either (a), (b) or (c), and all fines or penalties imposed upon or assessed against BNSF, and all expenses of investigating and defending against the same, arising in any manner out of (i) the use, occupancy or presence of District, its contractors, subcontractors, employees, invitees or agents in, on, or about the construction and/or maintenance site, (ii) the performance, or failure to perform by the District, its contractors, subcontractors, employees, or agents, its work or any obligation under this agreement, or (iii) the sole or contributing acts or omissions of District, its contractors, subcontractors, employees, or agents in, on, or about the construction and/or maintenance site. Nothing contained in this provision is intended to, nor shall be deemed or construed to, indemnify BNSF from its sole negligence or willful misconduct, or that of its agents, servants or independent contractors who are directly responsible to it.

13. That if BNSF shall deem it necessary or desirable, in the future, in the performance of its duty as a common carrier, to raise or lower the grade or change the alignment of its tracks or to lay additional track or tracks or to modify the Structure or to build other facilities in connection with the operation of its railroad, BNSF shall, at its expense, have full right to make such changes, modifications, or additions, provided such changes, modifications, or additions do not change or alter the Channel herein proposed to be constructed and provided further, however, that should it become necessary or desirable in the future to change, alter, widen or reconstruct the Channel to accommodate railroad projects, the cost of such work, including any cost incidental to alteration of railroad or drainage facilities made necessary by the alteration of the Channel, shall be paid for by BNSF.

14. That if District shall deem it necessary or desirable, in the future to alter, reconstruct, or enlarge the Channel herein contemplated, it shall have full right to do so, the cost of which shall be paid for by the District; provided, however, that such alteration, reconstruction or enlargement shall not encroach further upon or occupy the surface of BNSF's right of way to a greater extent than is contemplated by the plans and specifications to be approved by BNSF pursuant to Article II, Section 2 hereof, without the prior written consent of BNSF, and the execution of a supplement to this agreement or the completion of a separate agreement.

15. That the books, papers, records and accounts of the parties hereto, insofar as they relate to the items of expense for labor and material or are in any way connected with the work herein contemplated, shall at all reasonable times be open to inspection and audit by the agents and authorized representatives of the parties hereto for a period of three (3) years from the date of final payment.

16. All the covenants and provisions of this agreement shall be binding upon and inure to the benefit of the successors and assigns of the parties hereto, except that no party may assign any of its rights or obligations hereunder without the prior written consent of the other party.

17. In the event that construction of the Project has not begun for a period of three (3) years from the date of this agreement, this agreement shall become null and void.

18. Any notice provided for or concerning this agreement shall be in writing and be deemed sufficiently given when sent by certified mail, return receipt requested, to the parties at the following addresses:

The Burlington Northern and  
Santa Fe Railway Company:

BNSF's Vice President and Chief Engineer  
2600 Lou Menk Drive  
Fort Worth, Texas 76131

The Burlington Northern and  
Santa Fe Railway Company:

BNSF's Assistant Director Public Projects  
740 East Carnegie Drive  
San Bernardino, CA 92408-3571

Orange County Flood Control  
District:

County of Orange  
Chief Engineer  
Public Facilities & Resources Department  
P.O. Box 4048  
Santa Ana, CA 92702-4048

19. Upon completion of said Channel Improvements, BNSF shall provide District with a permanent Easement covering such Improvements. Said easement is identified as Parcel "C" on Exhibit "E" drawing attached hereto and made a part hereof.

20. District shall provide BNSF with easements and a permit for ingress to and egress from the northeasterly and southwesterly sides of the tracks on each side of said Channel for maintenance purposes. The easements shall be in the form of a permanent easement from dedicated roadways along the south channel bank to the northeasterly line of BNSF's right of way, identified as Parcel "B", and a revocable easement along the north channel bank of said Channel Improvements identified as Parcel "A" as shown on said Exhibit "E". District shall grant to BNSF at no cost to BNSF, a three year permit across Parcel "D", as shown on said Exhibit "E". Said Parcel "D" abuts BNSF Southwesterly right of way line on the east and Stanton Avenue on the west. Upon receipt of BNSF request, District shall extend the permit for successive three year terms. The easement along the north channel bank will be revoked only if a future realignment of the channel causes the District to eliminate the north maintenance road or a portion thereof. District agrees to provide draft copies of the permit and form of easement for said easements including metes and bounds legal descriptions and drawings that show the bearings and distances for said easements and permit.

21. The agreement between the parties hereto dated July 16, 1984, providing for the replacement of the North Main Track Bridge with a new prestressed concrete bridge structure (BNSF's Secretary's Contract No. 170388) shall terminate on the completion date of said Project. Said completion date shall be as specified in Article II, Section 12 hereof. Such termination shall not release any party thereto from any liability or obligation thereunder, whether of indemnity or otherwise, resulting from any act, omission or event happening prior to the date of termination or thereafter in the event the terms of said agreements provide that anything shall or may be done after termination thereof.



IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed and attested by its duly qualified and authorized officials as of the day and year first above written.

THE BURLINGTON NORTHERN AND  
SANTA FE RAILWAY COMPANY

Date: 5/28/98

~~WITNESS:~~ WITNESS:

Susan Thompson

By M. W. Franke  
M. W. Franke  
Its: Vice President and Chief Engineer

ORANGE COUNTY FLOOD CONTROL DISTRICT

Date: \_\_\_\_\_

By Charles V. Smith

Its Chairman of its Board of Supervisors

APPROVED AS TO FORM:  
LAURENCE M. WATSON  
County Counsel

Daniel P. Jones 6/2/98  
Deputy

SIGNED AND CERTIFIED THAT A COPY OF THIS  
DOCUMENT HAS BEEN DELIVERED TO  
THE CHAIRMAN OF THE BOARD

Darlene J. Bloom  
Darlene J. Bloom  
Clerk of the Board of Supervisors  
of Orange County Flood Control District,  
Orange County, California



COMMENT LETTER #14



JAMES A. NOYES, Director

**COUNTY OF LOS ANGELES  
DEPARTMENT OF PUBLIC WORKS**900 SOUTH FREMONT AVENUE  
ALHAMBRA, CALIFORNIA 91803-1331  
Telephone: (626) 458-5100  
www.ladpw.orgADDRESS ALL CORRESPONDENCE TO:  
P.O. BOX 1460  
ALHAMBRA, CALIFORNIA 91802-1460

May 20, 2003

IN REPLY PLEASE  
REFER TO FILE: WM-4

Mr. Gary Iverson  
Department of Transportation, District 7  
120 South Spring Street  
Los Angeles, CA 90012

Dear Mr. Iverson:

**DRAFT ENVIRONMENTAL IMPACT REPORT  
THIRD MAIN TRACK AND SEVEN GRADE  
SEPARATIONS PROJECT  
COUNTIES OF LOS ANGELES AND ORANGE**

Thank you for the opportunity to provide comments on the Draft Environmental Impact Report for the subject project. The third main track rail corridor extends from the City of Commerce about 14.7 miles south to the City of Fullerton. The affected jurisdictions include the Counties of Los Angeles and Orange and the Cities of Buena Park, Commerce, Fullerton, La Mirada, Montebello, Norwalk, Pico Rivera, and Santa Fe Springs. The goal of the proposed project is to improve the efficiency, capacity, and safety along this segment of the rail corridor and to meet the anticipated future demand. We have reviewed the submittal and offer the following comments.

Environmental Programs

14-1

As projected in the Los Angeles County Countywide Siting Element, which was approved by a majority of the cities in the County of Los Angeles in late 1997 and by the County Board of Supervisors in January 1998, a shortfall in permitted daily landfill capacity may be experienced in the County within the next few years. The construction and/or predevelopment activities associated with the proposed project may increase the generation of solid waste and may negatively impact the solid waste management infrastructure in the County. Therefore, the proposed environmental document must identify what measures the project proponent plans to implement to mitigate the impact. Mitigation measures may include, but are not limited to, implementation of waste reduction and recycling programs to divert the solid waste, including construction and demolition waste, from the landfills.

**RESPONSES TO COMMENTS**  
**LETTER #14**  
**COUNTY OF LOS ANGELES**  
**DEPARTMENT OF PUBLIC WORKS**

- 14-1      Please refer to responses to comment 13-15 through 13-17. Both Caltrans and BNSF are aware that construction and demolition waste delivered to regional landfills has to be minimized. Maximum waste diversion will be achieved by recycling as much of the waste generated as possible, and delivery of the inert waste to construction (inert) debris landfills or other available waste management, recycling, facilities.

Mr. Gary Iverson  
May 20, 2003  
Page 2

14-2

Should any operation within the subject project/development include the construction/installation, modification, or removal of underground storage tanks, industrial waste treatment or disposal facilities, and/or stormwater treatment structures and facilities, our Environmental Programs Division must be contacted for required approvals and operating permits. This includes, but is not limited to, the installation, modification, or removal of restaurant grease interceptors, auto repair clarifiers, and stormwater treatment structures.

14-3

The project shall be in compliance with all National Pollutant Discharge Elimination System Permit requirements and must take necessary mitigation measures to ensure stormwater quality protection.

If you have any questions, please contact Mr. Alvin Cruz at (626) 458-3564.

#### Geotechnical and Materials Engineering

14-4

The proposed project will not have significant environmental effects from a geology and soils standpoint, provided the appropriate ordinances and codes are followed. Portions of the project are located within mapped potentially liquefiable areas, per the State of California Seismic Hazard Zone Map, South Gate, Whittier, and La Habra Quadrangles. However, a liquefaction analysis is not warranted at this time. Detailed liquefaction analyses, conforming to the requirements of the State of California Division of Mines and Geology Special Publication 117, must be conducted at the tentative map and/or grading/building plan stages.

If you have any questions, please contact Mr. Amir Alam at (626) 458-4925.

#### Traffic and Lighting

14-5

The project may have a temporary transportation circulation impact on nearby County/City roadways and intersections during the construction period. We recommend that construction-related traffic, especially construction equipment, pick-up and dump trucks, and other material delivery trucks be limited on adjacent streets during weekday peak hours.

Detour plans shall be submitted to Public Works for review.

If you have any questions, please contact Mr. Patrick Arakawa of our Traffic Studies Section at (626) 300-4867.

***Responses to Comment Letter #14 (continued)***

- 14-2 This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. The project has limited potential to disturb or impact the types of waste management facilities identified in this comment, but where such facilities will be affected, Caltrans/BNSF or the individual cities implementing grade separation will contact and work through the Environmental Programs Division to ensure no adverse impacts result from disturbing such facilities.
- 14-3 Detailed mitigation measures are included in Chapters 4.6 and 4.7. Specifically, measures 4.6-1, 4.6-2, 4.7-2 and 4.7-3 require control of stormwater discharges to reduce potential water quality degradation. Specific performance standards are included to ensure that NPDES requirements will be met.
- 14-4 This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. Where required, the required detailed liquefaction analyses will be performed and submitted to the appropriate agency for review and approval. Please note that initial investigations have been completed and the geo-technical documents were included by reference in the Draft EIR. Measures 4.5-6 through 4.5-9 identify more specific performance standard mitigation to ensure that no significant impacts will result from implementing any of the individual project components.
- 14-5 Both detour plans and traffic management plans will be implemented to minimize short-term disruptions on the local circulation system. This requirement is included in mitigation measure 4.8-1 as is the performance standard to be achieved by these plans when they are compiled and approved in the future. One of the components of these future traffic management plans will be measures to direct construction-related traffic to use off-peak hours for all deliveries and pick-ups.

Mr. Gary Iverson  
May 20, 2003  
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Watershed Management Division

14-6

The proposed project should include investigation of watershed management opportunities to maximize capture of local rainfall on the project site, eliminate incremental increases in flows to the storm drain system, and provide filtering of flows to capture contaminants originating from the project site.

If you have any questions regarding the above comments or the environmental review process of Public Works, please contact Ms. Massie Munroe at (626) 458-4359.

Very truly yours,

JAMES A. NOYES  
Director of Public Works



FOR ROD H. KUBOMOTO  
Assistant Deputy Director  
Watershed Management Division

MM:sv/kk  
A:\Eir 314.doc

***Responses to Comment Letter #14 (continued)***

- 14-6 Please refer to the hydrology discussions in Subchapter 4.7 and the mitigation measures outlined on page 4.7-11. The project is being designed to minimize the increase in runoff; management of storm runoff within the project area; and filtering of flows to capture contaminants. Detailed drainage reports and Storm Water Pollution Prevention Plans have already been prepared as part of the final engineering and the measures incorporated into the drainage system designs for individual project components will meet the requirements listed in this comment.

## COMMENT LETTER #15



Southern California Gas Company  
Technical Services Department  
1919 S. State College Blvd., Bldg. A  
Anaheim CA. 92806

A Semptra Energy company  
May 16, 2003

California Department of Transportation, District 7  
120 South Spring Street, MS 16A  
Los Angeles, CA 90012

Attention: Gary Iverson, Office Chief

**Subject: Notice of Draft E.I.R. Report on the "3<sup>rd</sup> Main Track & Seven Grade Separations"**

Thank you for providing the opportunity to respond to the E.I.R. (Environmental Impact Report) document dated April 3, 2003 detailing the proposed (BNSF) Burlington Northern Santa Fe Railway Betterment Project.

15-1

To avoid conflicts with the addition of a 3<sup>rd</sup> track and the numerous grade separations along the railway corridor, Southern California Gas Company will be required to abandon and relocate numerous sections of its network of pipelines. This work will significantly impact our ability to deliver natural gas into the surrounding areas and communities. To accommodate the changes, Southern California Gas Company will be required to identify alternative sources of gas supply for its existing distribution system. This may entail installing new high-pressure supply and reinforcing our existing facilities. The associated construction work will have impacts on utility service, traffic, air quality, noise and potentially aesthetics, that must be reviewed in the EIR.

15-2

In addition, we are deeply concerned that the costs to accommodate the BNSF rail project and similar rail projects to create a "Goods Movement" corridor from the Port of Los Angeles to points east imposes unreasonable and unwarranted costs on Southern California Gas Company ratepayers.

15-3

Southern California Gas Company respectfully requests that the EIR address the negative impact of this project on the utility and its ratepayers.

Please feel free to contact me with any questions. I can be reached at (714) 634-3278.

Sincerely,

A handwritten signature in black ink, appearing to read "Kris V. Keas".

Kris V. Keas  
Technical Services Supervisor  
West Region - Anaheim

KVK/  
enr02 doc



**RESPONSES TO COMMENTS**  
**LETTER #15**  
**THE GAS COMPANY**

- 15-1 The impacts of construction within the identified footprints of the individual project components (third main track and seven grade separation) have been addressed for each of the issue identified in this comment. Note that this project is a Program EIR and the individual project components will be implemented over many years and at different times. The project engineers, Hanson Wilson and HDR along with the Caltrans Division of Rail and BNSF, have already expended significant effort to coordinate the management of utilities, including natural gas, within the areas of potential impact. As a Program EIR, the potential impacts of each future individual project will be reexamined as funds become available and contracts are authorized. Caltrans believes that sufficient information regarding project specific impacts related to utility relocation is included in this document. However, if different utility management impacts than already addressed occur when a specific project is implemented in the future, then additional environmental documentation will be prepared at that time. This approach is in full accord with CEQA program environmental requirements as outlined in Sections 15162 and 15168 of the State CEQA Guidelines.
- 15-2 This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented.
- 15-3 The physical impacts of the project have been fully address based on our knowledge at this time, consistent with program environmental document requirements. As noted in response to comment 15-1, if additional or different impacts are identified for specific projects in the future, additional environmental documentation can and will be compiled in accordance with Sections 15162 and 15168. However, the issue of economic costs to the utility and ratepayer is not an issue of significance for evaluation in a CEQA document as outlined in Section 15131 of the State CEQA Guidelines, unless it can be traced to a potentially significant physical impact on the environment. Since the physical impacts of managing utilities within the project's area of potential impact have been addressed and found to be nonsignificant at this stage of review, there is no need to conduct an economic evaluation on the company or the rate payers.

## COMMENT LETTER #16

## LAW OFFICES

## PALMIERI, TYLER, WIENER, WILHELM &amp; WALDRON LLP

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32926-000

May 19, 2003

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**VIA CERTIFIED MAIL**  
**RETURN RECEIPT REQUESTED**Gary Iverson, Office Chief  
California Department of Transportation  
District 7  
120 S. Spring Street, MS 16A  
Los Angeles, CA 90012**Re: Comments Re Draft Program Environmental Impact Report for  
the Proposed Third Main Track and Seven Grade Separations  
Project Along the Burlington Northern Santa Fe (BNSF) Railway  
Company's East-West Main Line Railroad Track**

Dear Mr. Iverson:

16-1

This office represents Majestic Realty, owner of several properties along the 14.7 mile length of the above-referenced project. As an affected property owner, Majestic Realty considers the viability of the draft Environmental Impact Report ("draft EIR") to be extremely important. Legal inadequacies in the draft EIR could have substantial detrimental impacts both to Majestic Realty's ownership interests in the affected properties and to the public as a whole.

16-2

As a property owner, Majestic Realty desires to ensure that the environmental impacts of the proposed project are known in advance to ensure that no unknown effects exist that will affect its property interests. On behalf of both Majestic Realty and the public as a whole, we have reviewed the draft EIR and discovered several deficiencies in the document. Those deficiencies are discussed below.

**RESPONSES TO COMMENTS**  
**LETTER #16**  
**LAW OFFICES**  
**PALMIERI, TYLER, WIENER, WILHELM & WALDRON LLP**

- 16-1      This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented.
- 16-2      This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented.

PALMIERI, TYLER, WIENER, WILHELM &amp; WALDRON LLP

Gary Iverson, Office Chief

May 19, 2003

Page 2

16-3 Preliminarily, the draft EIR fails to address any of the comments contained in the May 16, 2002, letter from Majestic Realty's Consultant, Gary S. Weber, in response to the Notice of Preparation and Initial Study ("NOP") for the project. A true and correct copy of that letter is attached hereto and is incorporated herein for inclusion in the record of the public comments on the draft EIR. We request a response to each of the following:

16-4 

- The environmental analysis within the initial study did not adequately or accurately address land use and circulation impacts relating to Majestic Realty's properties at 14950-52 Valley View Avenue, 14209-11 Gannet Street, and 13833 Borate Street.

16-5 

- The preliminary plans and project description did not accurately depict the proposed improvements or impacts to the above-referenced properties.

16-6 

- The environmental analysis contained no discussion of the impact of using Majestic's Valley View property for access to the adjacent property, nor did it discuss the impact of access to the Valley View property during the temporary realignment of Valley View in connection with the project.

16-7 Also, the proposed Valley View Avenue grade separation project referenced throughout the draft EIR, and described in Section 3.2.2, does not conform to the improvement plans that were available from the project engineer (Hansen-Wilson) in August/September 2002. For CEQA compliance, the draft EIR must address the environmental impacts of the project that the proponent *actually intends* to construct. To the extent that the intended project has changed, the draft EIR must reflect those changes and address the environmental impacts of the project *as modified*.

With respect to the balance of the draft EIR, Majestic Realty's comments are as follows:

Page 1-3, Sec. 1.4 (Unresolved Issues): We disagree that no issues remain unresolved:

16-8 

- The draft EIR does not accurately describe the current design for the Valley View Grade Separation.

**Responses to Comment Letter #16 (continued)**

16-3 Mr. Weber's comment letter raised three issues:

- accuracy of the land use and circulation system impacts related to Majestic properties at 14950-52 Valley View, 14209-11 Gannet Street, and 13833 Borate Street;
- changes to the driveway and access ramp at the Valley View property;
- use of the Valley View property for access to adjacent property; and
- access to the Valley View property during the temporary alignment of Valley View.

It is unusual for a project to address specific property impacts at the program level review stage. General impacts to land use were addressed in the Initial Study and the circulation impacts were addressed in the Draft EIR. Of the three properties, two will incur little or no impact from implementation of the proposed project. Specifically, for the Gannet and Borate properties no impacts will occur. The Valley View property will experience limited impacts during construction in the following way: (1) the reconstruction on Valley View at the property entrance; and (2) the relocation of the storm drain and sanitary sewer trunk line to the north of the property. Traffic on Valley View will have two lanes open in each direction through construction, either on the existing roadway or on a detour to the west. The entrance to the Majestic property is located above where the Valley View roadway be lowered for the proposed underpass and only minor grade changes at the entrance are required to match the proposed roadway. Paved access to Majestic's Valley View property will be maintained throughout construction.

16-4 The design for the grade separation at Valley View changed slightly just prior to the completion of the Draft PEIR. The final design for Valley View, and supporting maps, are provided as Attachment 2 to this Final EIR. The attached figures show the final design for the Valley View grade separation accepted by BNSF and the cities of Santa Fe Springs and La Mirada. The footprint of construction activities at Valley View has not been altered in any manner that would cause different or more significant impact than already identified in the Draft PEIR. Please refer to response to comment 16-3 above. The following provides more detailed information on the phases of construction at Valley View:

1. Phase 1 - Utility/Storm Drain Relocations and Detour Construction: Traffic flow on Valley View will continue as it current exists. The storm drain and sanitary sewer trunk lines will be relocated to an easement acquired from Majestic on the north property line. Minor interruptions to access and parking may be experienced with this phase of the construction when the utility/storm drain lines are crossing or being connected in Valley View. This will occur for only a few days, but continuous access will be provided to all properties along Valley View during this construction, including Majestic's 14950-52 Valley View Avenue property.
2. Phase 2 - Underpass Bridge Construction: Traffic will be on the Valley view detour with the Majestic Valley View property access connected to this detour. Access and operations at Majestic's Valley View property should not be impacted during this phase of the construction.
3. Phase 3 - Valley View North/Stage Road Construction: Traffic on Stage Road will be detoured with the Valley View traffic on the detour. Access to the Majestic Valley View property will remain the same as during Phase 2.

**Responses to Comment Letter #16 (continued)**

16-4 (cont.)

4. Phase 4 - Valley View South Construction: This phase of construction will include the reconstruction of the Majestic property driveway and some interruptions to traffic will occur for brief periods of time. The Contractor will coordinate the construction to maintain access to minimize impacts to operations. Work will be done at night with access opened during working hours.

This provides the most detail regarding construction that is available at this stage of review for the grade separation at Valley View Avenue. When this project is actually considered for construction, the cities of Santa Fe Springs and La Mirada must reconsider the findings in the Final PEIR for this project and identify any changes in impacts that may occur. This would include noticing all parties that have requested notification, such as the Palmieri, *et al*/law firm and Weber Consulting. Again, please note that neither the Gannett Street or Borate Street properties will be affected by either construction or operational activities from this project. Thus, at this point in time the land use impacts to the only property affected by this project will remain the same as forecast in the Initial Study contained in Appendix 8.1 of the Draft PEIR. The industrial operations at 14950-52 Valley View Avenue will experience limited, nonsignificant short-term effects on operations due to access constraints, but access will be available during all construction activities. No change in land use will occur and over the long-term better access will be provided to industrial operations at this site because delays due to trains will not occur in the future. Limited circulation system effects will occur to only the Valley View property. The construction activities will not prevent access to this property, except as may be necessary during re-construction of the driveway entrance to the property at the end of the construction activities. Circulation may be constrained for short-periods as indicated in the Draft PEIR, but these constraints are not considered to significantly adverse as access will be maintained. The cities will develop traffic management plans which will include input from Majestic for its Valley View property that will ensure the circulations system impacts are controlled to a level of nonsignificant impact as indicated in mitigation measure 4.8-1, or a future environmental document will have to be prepared.

- 16-5 As noted above, there were minor changes in the Valley View Grade Separation project concurrent with the publication of the Draft PEIR. These are described above and the project revisions actually reduce any impact on Majestic's Valley View property. Other Majestic properties identified in previous comments will not incur any direct effects from the proposed project. The aerial photo and engineering drawings attached to these comments show the final design for the Valley View Grade Separation. The foot-print of the project remains about the same, actually reduced, compared to that identified in the Draft PEIR. No additional adverse impacts are forecast to result from implementing this slightly modified design.
- 16-6 Based on the revised construction plans and discussions with the project engineers, the Valley View Grade Separation project will not require any access across Majestic's Valley View property to access the SSDI property to the north. Thus, the impact referred to in this comment will not occur if the proposed project is implemented.

***Responses to Comment Letter #16 (continued)***

- 16-7 Please refer to responses to comments 16-3 through 16-6. The changes are minor and reflect less overall impact to Majestic and adjacent properties than the design shown in the Draft PEIR. The overall footprint of the impact area has been reduced as shown on the drawings attached to these responses.
- 16-8 Please refer to responses to comment 16-3 through 16-7 which addresses this comment.

PALMIERI, TYLER, WIENER, WILHELM &amp; WALDRON LLP

Gary Iverson, Office Chief  
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16-9

- The draft EIR does not address the impacts to the properties at 14950 Valley View Avenue and 14209 Gannet Street with the implementation of the Valley View Grade Separation Project.

16-10

- The Valley View Grade Separation Project described in the Project Description will adversely impact the vehicular circulation, parking, and overall utility of the property at 14950 Valley View Avenue because vehicular access to an adjacent property is proposed across and through an area currently utilized for truck traffic and parking.

16-11

- The draft EIR does not address the impacts to the property at 13833 Borate Street with the implementation of the Rosecrans/Marquardt Grade Separation Project.

**Page 2-4, Sec. 2.2.1 (Notice of Preparation and Responses):**

16-12

- None of the 14 comment letters received during the NOP review period were included in Chapter 8, Section 8.1, as stated in the second paragraph of Section 2.2.1. Please include a copy of all letters, faxes, emails, etc., submitted during the NOP review period.

16-13

- Discrepancies exist in the project description for the Valley View Grade Separation that should be corrected and analyzed for environmental impacts.

16-14

- Certain legitimate environmental concerns were expressed during the scoping meetings but have not been addressed in the draft EIR. All valid environmental comments should be thoroughly addressed.

**Sec. 2.3 (Scope and Content of this EIR), First Full Paragraph on Page 2-5:**  
None of the 14 NOP letters has been summarized in the draft EIR.



**Responses to Comment Letter #16 (continued)**

- 16-9 The impact analysis contained in the Draft PEIR is accurate for this program level of review. Based on the finalized engineering plans and input from the design engineers for the Valley View Grade Separation, no impacts will occur to the property on Gannet Street. Additional details about construction Impacts to Majestic's Valley View property is provided above (response to comments 16-3 through 16-5), but these impacts do not differ from the general impacts identified in the Draft PEIR. Construction impacts will constrain access to this property but access will be provided during all hours when required. Access to the property after constructing the grade separation will improve due to reduced delays.
- 16-10 As indicated in response to comment 16-6, the current design and construction plans for the Valley View Grade Separation does not require any access on or across Majestic's Valley View property. Therefore, the potential impacts identified cannot occur.
- 16-11 Based on a review of the detailed plans with the project manager and engineer (BNSF and Hanson Wilson) no construction activities or new facilities will be placed adjacent to the property at 13833 Borate Street with the implementation of the Rosecrans/Marquardt Grade Separation Project. Basic land use will remain the same and the only indirect effect will be the short-term effects to traffic flow on the local circulation system. This will be an inconvenience but mitigation measure 4.8-1 requires the implementation of a traffic management plan that includes the following performance standard requirements: safe traffic flow through the construction and provision of adequate access through construction areas to meet safety and emergency vehicle access and transit through construction areas at all times when construction is underway. For all of the proposed project components the short-term construction impacts were determined to be nonsignificant with implementation of the proposed mitigation. After examining the specific property at 13833, this finding is concluded to remain valid. Of course, the long-term impact on the local circulation system will be positive because vehicles on Valley View will be able to move unhindered across the railroad tracks through the new grade separation.
- 16-12 Copies of the NOP comments are provided as Attachment 1 to this package of response. They were inadvertently left out of Appendix 8.1.
- 16-13 Additional data regarding the project are provided in responses to comments 6-3 through 6-5 and in the attached aerial photo and engineering drawings for the Valley View Grade Separation.
- 16-14 This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented.

PALMIERI, TYLER, WIENER, WILHELM &amp; WALDRON LLP

Gary Iverson, Office Chief  
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Page 4

16-15 [ **Page 3-5, Sec. 3.2.2 (Project Description):** The second sentence on page 3-5 indicates that construction of the Third Main Track will begin the third quarter of 2003, however, the grade separations will be delayed indefinitely because of funding constraints. The draft EIR does not address how the Third Main Track can be constructed without the proposed grade separations. That would constitute a new project, with new environmental impacts that must be addressed. This scenario should be described and evaluated in the Alternatives Section of the draft EIR.

**Sec. 3.2.2.3 (Grade Separation Improvements):**

- 16-16 [ • All of the descriptions of the seven proposed grade separations in this section include a paragraph starting with the phrase, "the recommended alternative . . . ." This terminology should be changed to read, "the recommended *project design* . . ." instead of *alternative*. The current terminology is inaccurate in light of the CEQA standards regarding alternatives, particularly since the only alternative discussed in the draft EIR is the "No Project Alternative."
- 16-17 [ • The draft EIR should provide current improvement plans for each grade separation, including plans/profile, detour alignments, road closures, driveway closures, utility locations, property takes, easements, etc. The current plans should be accompanied by an accurate project description and impact analysis.

**Pages 3-15 and 3-16, Rosecrans Avenue/Marquardt Avenue:**

- 16-18 [ • The property at 13833 Borate Street, Santa Fe Springs, is currently served by a spur track. The draft EIR does not indicate that construction of the Third Main Track or Rosecrans/Marquardt grade separation will permanently or temporarily impact the use of that spur. If so, the scope of the impact and any plans to mitigate such impact must be addressed.
- 16-19 [ • The draft EIR refers to the relocation of sanitary sewer lines associated with Rosecrans Avenue but contains no discussion of the proposed relocation of two sanitary sewer lines across the property at 13833 Borate Street. The draft EIR should provide a description of this improvement and the potential short term and long term impacts to the property.

**Responses to Comment Letter #16 (continued)**

- 16-15 The assumption in this comment is not correct. Actually the specific construction process for the third main track has always been assumed to proceed without any linkage to the grade separations. On page 3-1, the grade separations and third main track are identified as separate project objectives. Either objective could be fulfilled without the other project component being implemented. The description of the construction process for the third main track (Subchapter 3.2.2.1) does not assume that the grade separations will be construction concurrently or at all. The third main track was clearly identified as a separate and distinct project component and it is not a new project. All environmental effects of implementing this project component have been analyzed and presented in the Draft EIR.
- 16-16 This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. The term “recommended alternative” reflects the lengthy planning process conducted with the various cities where grade separations are proposed to be installed. This process began with an initial evaluation of both above grade and below grade separations. Above grade separations were ultimately rejected because the area of impact, both direct and indirect, was substantially greater with above grade separation. Similarly, a variety of design alternatives were examined for each below grade separation. The primary effort was to minimize the number of parcels directly affected by the proposed project. As a result of this extensive examination of alternatives with representatives of the cities of Pico Rivera, Santa Fe Springs, La Mirada and Buena Park the term “recommended alternative” is judged to be appropriate; however, the term “recommended project design” could be equally applicable.
- 16-17 This comment reflects a common theme in these comments. Please refer to responses to comments 16-3 through 16-8. After a thorough review of the individual project descriptions for each project component, the only correction in a project description is the one identified above for Valley View. The other descriptions were determined by the project engineers to be accurate enough to ensure the impact forecast were accurate.
- 16-18 The spur track serving the 13833 Borate Street facility will not be altered as part of this project and will continue to be served from the existing track during and after construction.
- 16-19 Based on a review of the project, the sanitary sewer lines serving the 13833 Borate Street facility will not be affected by the proposed project.

PALMIERI, TYLER, WIENER, WILHELM & WALDRON LLP

Gary Iverson, Office Chief  
May 19, 2003  
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- 16-20
- Pages 3-16 and 3-17, Valley View Avenue:** The project description and Figure 3-9a do not depict the current improvement plans prepared by Hansen-Wilson. For example, Figure 3-9a appears to show an access road across the property at 14950 Valley View Avenue to serve an adjacent property. It also depicts a retaining wall along Valley View that blocks an existing driveway.
- The draft EIR should provide the current improvement plans and an accurate description of the Valley View Grade Separation Plan.
- 16-21
- The draft EIR should describe whether a vehicular access easement will be needed across the property at 14950 Valley View Avenue. If so, the draft EIR should describe the impacts to circulation and land use on the impacted properties.
- 16-22
- The draft EIR should provide a detailed description of the proposed sewer and storm drain improvements across the property at 14950 Valley View, as well as the potential short-term and long-term impacts to the property.
- 16-23
- Page 4.7-11, Mitigation Measure 4.7-1:** The current plans for the Valley View Avenue Grade Separation call for a new storm drain to be constructed across the property at 14950 Valley View Avenue. Mitigation Measure 4.7-1 calls for certain improvements, including flush treatment systems, retention facilities, separators, etc. The draft EIR does not indicate if any of these mitigation improvements will be required as part of the storm drain system that is proposed for the 14950 Valley View property. Also, the draft EIR should address any impacts of such improvements.
- 16-24
- Page 4.8-17, Valley View Avenue:** The Road Separation Project calls for a temporary detour to Valley View, south of Stage Road. The draft EIR should indicate if the temporary detour will affect access to any property that currently has driveway access to Valley View along the area in question.
- 16-25
- Page 5-1, Chapter 5 (Alternatives):** During the NOP review period and public meetings, various individuals asked whether the railroad tracks could be lowered instead of lowering the road at strategic locations. It was pointed out that this alternative could reduce railroad noise within the existing residential neighborhoods and improve safety at road crossings. The draft EIR should discuss this alternative in the Alternatives Section.

**Responses to Comment Letter #16 (continued)**

- 16-20 Please refer to responses to comment 16-3 through 16-6 and to the new drawings at the end of these response which shows the most current engineering drawings and layout. No retaining wall exists which will block any retaining wall.
- 16-21 Please refer to responses to comment 16-3 through 16-8 and to the new drawings at the end of these response which shows the most current engineering drawings and layout. No access easement will be required across Majestic's Valley View property.
- 16-22 Limited detail of the storm drain and sewer improvements is provided in the aerial photo and drawings provided at the end of this document (revised right-of-way and easement figures included) and the construction scenario is presented in some detail in responses to comments 16-3 through 16-6 and 17-73.
- 16-23 The need for retention systems and other storm water management facilities is dependent upon whether drainage systems are modified and whether storm water runoff is increased. Detailed drainage studies have been available for review upon request since the Draft EIR was released. The commentor should review the pertinent drainage document(s) for more details. Regardless, first flush equipment (filters, etc.) must be installed by regulation within the grade separation projects. No detention or other facilities will affect the property at 14950. The net environmental effect of installing the proposed drainage facilities consists of the identified short-term construction impacts (indirect noise and circulations system effects on the property at 14950), improved water quality in the water discharged from the grade separation projects, and some ongoing maintenance activities associated with the first flush system and, where appropriate, the pumps required to maintain the system. Note that the project design, including that for Valley View, includes Best Management Practices units for stormwater quality and that the underpass drainage designs are for a 50-year storm with no ponding or retention.
- 16-24 As noted in responses to comments 16-3 through 16-6, driveway access will be maintained through the construction period for all properties affected by the Valley View Grade Separation. Note that for very short periods, to be scheduled with the property owners, the re-construction of the driveways following completion of the grade separation may disrupt access for short periods of time. During such periods construction will be scheduled in off hours to minimize any access disruption.
- 16-25 The lowering of the track as an alternative was eliminated from consideration in the EIR for many reasons. The first is the cost which would have been increased by several hundred million dollars because all three tracks would have to be placed underground, not just the new third track. The second reason is the significant short-term air quality impacts associated with hauling away several million cubic yards of dirt. Third, was the intolerable loss of track time. In order to underground the tracks, the whole track would have to be shut down for long periods of time. There is no place to divert the existing 100 or so trains, which would mean terminating commuter train, passenger train and freight train operations along this corridor. Fourth, substantial additional right-of-way would have been required to lower the proposed and existing tracks below grade which would have encroached on adjacent roads and property. Based on these factors, this alternative was judged as not being technically feasible for the third main track early in the process.

PALMIERI, TYLER, WIENER, WILHELM & WALDRON LLP

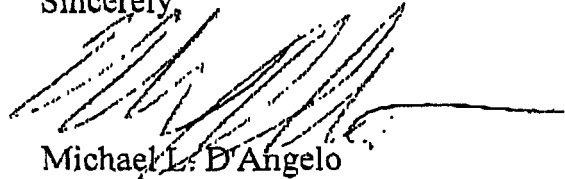
Gary Iverson, Office Chief  
May 19, 2003  
Page 6

16-26

The invalidity of the draft EIR could substantially affects Majestic Realty's property interests. We therefore request that the inadequacies in the draft EIR noted above be corrected in the Final EIR.

Thank you for your consideration of this matter.

Sincerely,

A handwritten signature in dark ink, appearing to read "Michael L. D'Angelo", with a long horizontal line extending to the right.

Michael L. D'Angelo

MLD:cg  
Enclosure

***Responses to Comment Letter #16 (continued)***

- 16-26 This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. The data presented in the Draft EIR and these responses indicate that beyond a short-term construction effect on the property at 14950 Valley View, no other adverse impacts will affect Majestic's property. The Department concludes that these data verify the conclusion in the Draft EIR that this short-term effect on the property does not rise to a level of significant environmental impact.

**WEBER CONSULTING**

May 16, 2002

VIA FAX AND MAIL

California Department of Transportation  
Division of Environmental Planning  
Attn: Gary Iverson, Office Chief  
120 South Spring Street  
Los Angeles, CA 90012

RE: **NOTICE OF PREPARATION AND INITIAL STUDY FOR THE GRADE SEPARATION  
AND BURLINGTON NORTHERN-SANTA FE RAILWAY COMPANY RAIL PROJECT**


Dear Mr. Iverson:

Thank you for the opportunity to comment on the Notice of Preparation and Initial Study for the Grade Separation and Burlington Northern Santa Fe Rail project. As a consultant for Majestic Realty, an affected property owner, I have reviewed the environmental documentation and have had preliminary conversations regarding project design with key CalTrans and Burlington Northern Santa Fe representatives. They have been most helpful.

Our comments are quite simple; we believe that the environmental analysis in the Initial Study has not adequately or accurately addressed land use and circulation impacts as they relate to properties at 14950-52 Valley View, 14209-11 Gannet Street, and 13833 Borate Street. Moreover, we believe that the preliminary plans and project description do not accurately depict the proposed improvements or impacts to these properties. For example, the preliminary plan indicates no change to the entrance to the Valley View property; however, the cross section indicates relatively major changes to the driveway and access ramp. Additionally, there is no discussion of the impact of using the Valley View property for access to an adjacent property. There is also no discussion of the impact of access to the Valley View property during the temporary realignment of Valley View.

We understand that this comment period is indented to allow early input into the environmental review and project design process. We also understand that the plans are very preliminary, but that the Environmental Impact Report will include a thorough analysis of more detailed plans. Thank you for your consideration and we look forward to these matters being fully addressed in the Program EIR.

Respectfully,

  
Gary S. Weber

CC: Dennis Daze (Majestic Realty)





**Solid State Devices, Inc.**

14830 Valley View Avenue - La Mirada - CA. 90638

Phone 562-404-7855 Fax 562-404-2688

Email: ssdi@ssdi-power.com Web Site: www.ssdi-power.com

May 15, 2003

Gary Iverson  
Office Chief  
California Department of Transportation, District 7  
120 South Spring Street, MS 16A  
Los Angeles, California 90012

Re: State of California, Department of Transportation, Third Main Track and  
Grade Separation Project on the BNSF East-West Main Line Railroad Tracks

Dear Mr. Iverson:

17-1 [ Attached is an Independent Peer Review of the draft EIR Report (SCH No. 2002041111) for the  
proposed Third Main Track and Grade Separation Project that was prepared on our behalf by  
Genterra Consultants, Inc. This review was prepared in reply to your request for comments in  
your letter of April 3, 2003.

Sincerely,

Arnold N. Applebaum  
President/CEO

ANA/mti  
Attachment

**RESPONSES TO COMMENTS  
LETTER #17  
SOLID STATE DEVICES, INC.**

**Introduction to Response to Letter #17**

In reviewing the extensive comments submitted by this commentator, it is apparent that they are repetitive and focus on a few discreet areas. The majority of the comments deal with two distinct categories: (1) the proper scope of the proposed project, and (2) the growth inducing nature of the proposed project. Due to the repetitive nature of the comments, the Lead Agency is providing this introduction to its responses to directly and comprehensively address the issues raised by these two categories of comments. Although the Lead Agency will to respond to each comment individually hereafter, the Lead Agency hereby incorporates all of the following into each of its responses. In addition, due to the extensive overlap of comments submitted by this commentator, the Lead Agency also hereby incorporates all of its following responses into each of its responses, to the extent necessary to address the overlapping comments.

**Scope of the Proposed Project**

Many of the comments criticize the adequacy of the project description and accompanying environmental analysis based upon that project description. The comments assert that the project description is too narrow because it does not consider other rail line improvement projects or analyze the potential environmental impacts of other rail line improvements thereby improperly restricting the scope of the environmental analysis in the EIR. The comments assert that, in addition to the improvements to the 14.7-mile stretch of BNSF's main line track between Basta and Hobart, the EIR should include an analysis of any concept for rail line improvements identified within the entirety of BNSF's east-west main line corridor. In support of this position, the commentator refers to numerous planning documents prepared by the Southern California Association of Governments (SCAG) and the Los Angeles Economic Development Corporation (LAEDC), which identify general ideas and concepts regarding future rail line improvements.

Essentially, the commentator is arguing that any rail line improvement that has been identified as needed within the southern California rail line system must be considered as part of the proposed project and the potential environmental effects thereof must be analyzed in one EIR. However, CEQA does not require such speculative, uncertain improvements to be analyzed in an EIR. This is particularly true in this case, where the primary purpose of the rail line improvements is to increase efficiency on a 14.7-mile stretch of the BNSF main line between Basta and Hobart, which is presently congested, as compared to a project which itself creates train trips. In making many of his comments, the commentator overlooks this essential distinction.

Based on information obtained by the Lead Agency through consultation with other public agencies and public input through public scoping meetings and the initial study, the Lead Agency is responsible for determining the scope of the project analyzed in the EIR. CEQA requires that the complete project be included in the environmental review to foster informed public review and to not minimize potential environmental impacts. The project description must include all relevant parts of a project, including reasonably foreseeable future expansions or other activities that are a reasonably foreseeable consequence of implementation of the project.

#### ***Responses to Comment Letter #17 (continued)***

CEQA Guidelines Section 15165. An activity must be included in the project description and analyzed in the environmental document if: (1) it is a reasonably foreseeable consequence of the initial project and (2) the future expansion or action is likely to change the scope and nature of the initial project or its environmental affects. *Laurel Heights Improvement Assn. v. Regents of the University of California* (1988) 47 Cal.3d 376, 396. Uncertain or speculative future activities not currently proposed for approval and that are not reasonably foreseeable consequences of the project that is proposed for approval need not be included in the environmental analysis. Where future development is unspecified and uncertain, no purpose can be served by requiring an EIR to engage in sheer speculation as to future environmental consequences. *Del Mar Terrace Conservancy, Inc. v. City Council of the City of San Diego*, (1992) 10 Cal.App.4th 712, 730.

The SCAG and LAEDC documents are nothing more than regional planning documents containing general ideas and concepts regarding future potential rail line improvements that may be necessary to handle increased rail traffic based upon future growth and rail traffic projections. The improvements identified in those documents have not been proposed for implementation. There are no current plans to develop the conceptual improvements nor is there any certainty that they will ever be developed. The regional rail line improvements identified in the aforementioned planning documents remain too speculative and uncertain to allow for meaningful review of potential environmental impacts therefrom. Certainly they have not been engineered as have the components of the proposed project. See *Residents Ad Hoc Stadium Committee v. Board of Trustees of the California State University and Colleges* (1979) 89 Cal.App.3d 274. CEQA does not require that all identified potential rail line improvements within the southern California rail line system be evaluated in one EIR. See *Christward Ministry v. County of San Diego* (1993) 13 Cal.App.4th 31, 45 (holding single EIR is not needed for every proposed trash project in county). Accordingly, the project description is properly limited to the improvements currently proposed for development and reflected in the project description in the EIR.

#### **Growth Inducing Nature of the Project**

The commentator also alleges that the proposed project will lead to an increase in rail line traffic and that the potential environmental impact from additional trains was not evaluated in the EIR. The goals and objectives of the proposed project are to increase passenger train rail line efficiency on a 14.7-mile stretch of BNSF's main line between Basta and Hobart. The Proposed project includes installation of a third main track, as well as construction and development of seven grade separations along the 14.7-mile stretch. As has been amply demonstrated throughout the text of the EIR, the Proposed Project will not itself result in an increased number of train trips. Although the proposed project does involve the installation of an additional track, the increased efficiency that will result from the proposed project will not itself result in additional train traffic. Train traffic is dictated entirely by economic demand for shipment of goods by rail or by passengers seeking to use alternative modes of transportation. Therefore, the number of train trips dictated by such economic or passenger demand is independent of the train system itself and would occur regardless of the Proposed Project. Thus, the EIR properly excluded any discussion of environmental impacts from additional train trips.

Currently, the 14.7 mile double track segment is served by three main tracks at both ends, Hobart and Basta. Approximately 96 trains, a mix of passenger and freight trains, utilize the existing BNSF corridor each day. The current amount of rail traffic can affect passenger train schedules by causing delays, but according to BNSF representatives the occurrence of such passenger train schedule delays (the elimination of which is the fundamental objective of the proposed project) do

**Responses to Comment Letter #17 (continued)**

not define the maximum capacity of this double track segment to handle trains. In this context, it is important to keep in mind that rail is a mode of transport which is regulated and the carriers are “obligated” under the law to carry freight traffic as economic demand requires or dictates. Regardless, with the current of the double-track configuration unacceptable delays for passenger trains can occur, due to congestion related to the complex interaction between passenger and freight trains. Thus, degradation of passenger train operations presently occurs, even though the system could physically handle a substantially greater amount of train traffic than presently occurs.

An average of ninety-six (96) trains presently use this two track segment every 24 hours, which represents about two trains per hour for each track (24 hours x 2 tracks = 96 trains) on average. BNSF representatives indicate that, with some minor signal improvements, the current double-track configuration could accommodate approximately 160 trains per day, which is nearly double the number of trains currently traveling through the project area on a daily basis. Thus, the maximum average hourly capacity of the Hobart to Basta two-track segment is approximately 3.3 trains per hour per track that could be accommodated, or 160 trains per day (80 per track per day). However, one result of accommodating 160 trains per day would be additional unacceptable delays for passenger trains due to complex train movements. Regardless, the data indicate that the current system could handle a substantially greater amount of train traffic than presently occurs.

The above data illustrate that the existing track segment between Hobart and Basta is not limited by a lack of capacity; but, rather by its ability to effectively accommodate a mix of passenger and freight trains without incurring substantial and unacceptable delays for passenger trains through the 14.7 mile project area. **Stated more simply, the existing track system from Hobart to Basta is not capacity limited, but schedule limited.** At present there is no unfulfilled demand for the existing rail capacity on this track segment, so it remains unused. Thus, although not necessary to accommodate train traffic in general between Hobart and Basta, the installation of a third track from Hobart to Basta will provide the needed improvement in passenger train service and dependability by providing an additional track that will accommodate passenger train schedules. The third main track will allow the scheduling of both passenger and freight trains in a manner which will eliminate unacceptable delays to passenger trains through the 14.7-mile project area.

Currently, mainline track train traffic accounts for only 60% (96/160) of current potential capacity of this track segment. BNSF forecasts estimate that demand through the 14.7 mile project area in the year 2010 will not exceed the current potential capacity (160 trains per day), even with the installation of the third track. Therefore, the project area will continue to have excess capacity for the foreseeable future. Forecasting the number of future train trips is inherently speculative because the estimate of the number of trains that may use the tracks in the future is an indirect estimate based on speculation about future economic activity and the need to move goods and people. Beyond short term projections, perhaps out ten years or so, the variables involved in making forecasts becomes inherently speculative because changes in political and economic circumstances in the U.S. and other countries on the Pacific Rim cannot be foreseen. In that regard, it is significant that the current (2003) average daily train traffic through the 14.7 mile project area is at a level forecast for the year 2000 (LAEDC, 2002).

As noted above, any determination of future train traffic is entirely dependent on economic and market factors, which are unrelated to this project and which cannot be accurately foreseen. At this time, projects regarding future economic factors are entirely speculative. Therefore, the EIR properly excluded any discussion of environmental impacts related to additional train trips as speculative and beyond the scope of this project.

***Responses to Comment Letter #17 (continued)***

Another flaw in the commentator's assumptions about train traffic is that it automatically increases to utilize available capacity. This assumption does not apply to the railroad system as it does to the highway system. There is more existing demand for road capacity than can be met; however, there is more existing capacity than demand for rail traffic, so train traffic does not automatically increase with an additional track. Further, since there are only a few rail system operators, the capacity of the available rail corridors can be managed by the railroads, as opposed to the millions of independent motor vehicle decision-makers that make daily personal decision on a regional circulation system that is already overloaded due to existing demand. Comparing the rail circulation system to the motor vehicle circulation system and assuming that capacity will inevitably be utilized is unreasonable.

As a result of these circumstances, the third track may represent an absolute increase in capacity for the Hobart to Basta segment (keep in mind the segments west and east are already triple-tracked), but it does not represent a capacity increase for which demand exceeding capacity will occur in the foreseeable future. Thus, the addition of the third track through the 14.7 mile project area does not increase capacity in any real sense, because this capacity is not needed nor will it be used in the foreseeable future. What the third track does accomplish is to meet this project's primary objective to allow passenger train schedules to be maintained in a manner that will continue to attract passengers and remove them from the regional motor vehicle circulation system.

With this background in mind, it is hoped that the Lead Agency's following responses will be more useful.

- 17-1      This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented.

# **INDEPENDENT PEER REVIEW**

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## **THIRD MAIN TRACK AND SEVEN GRADE SEPARATION PROJECTS**

### **BURLINGTON NORTHERN SANTA FE RAILROAD COMPANY EAST-WEST MAIN LINE RAILROAD TRACKS**

#### **Draft Environmental Impact Report SCH No. 2002041111**

---

Submitted to:

**CALIFORNIA DEPARTMENT OF TRANSPORTATION, DISTRICT 7**  
120 South Spring Street, MS 16A  
Los Angeles, California 90012  
(213) 897-3818

Prepared by:

**GENTERRA CONSULTANTS, INC.**  
15375 Barranca Parkway, Suite K-102  
Irvine, California 92618  
(949) 753-8766

May 12, 2003

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## 1.0 INTRODUCTION

**Solid State Devices, Inc. (SSDI)** owns property in the City of La Mirada that will be directly and indirectly impacted by the proposed third track and grade-separation project proposed by the California Department of Transportation, Division of Rail (Department or Lead Agency) and Burlington Northern Santa Fe Railway Company (BNSF) at Valley View Avenue and at other locations in both Los Angeles and Orange Counties. At the request of SSDI, GENTERRA Consultants, Inc. (GENTERRA) has conducted an independent, peer review of Volume I of the "Draft Environmental Impact Report for the Third Main Track and Grade Separation Project on the Burlington Northern Santa Fe Railroad Company East-West Main Line Railroad Track, SCH No. 2002041111" (California Department of Transportation/Tom Dodson & Associates, March 2003) (DPEIR).

17-2

That review, which did not include Volume II (Technical Appendix) of the DPEIR, was conducted for the purpose of identifying the potential deficiencies, if any, with the DPEIR that would prevent or otherwise limit that document's ability to serve as an adequate environmental basis for informed decisionmaking by the Department, by other public agencies, and by those property owners affected or potentially affected by the proposed project. This analysis, which was more general in scope, did not include an evaluation of the potential direct, indirect, and cumulative impacts of the proposed "Third Main Track and Grade Separation Project" on SSDI's existing facilities, located at 14830 Valley View Avenue in the City of La Mirada.

17-3

As indicated in Section 21082.2(e) of California Environmental Quality Act (CEQA), as codified in the Public Resources Code (PRC): "Statements in an environmental impact report and comments with respect to an environmental impact report shall not be deemed determinative of whether the project may have a significant effect on the environment." Beyond the Lead Agency's declarations in the DPEIR, GENTERRA's objective in submitting these comments is to ensure that the DPEIR meets the spirit and intent of those local, State, and federal environmental documentation requirements for which the DPEIR has been prepared. Only in that fashion can the issues potentially affecting SSDI and others be fully considered by the project's decisionmakers, that a reasonable range of alternatives be identified and considered, that feasible and effective mitigation measures and/or project revisions be identified in order to avoid or minimize potentially significant environmental effects, and that the resulting environmental documentation serves as an adequate informational basis to foster informed decisionmaking, not only by the participating public agencies but by SSDI itself.

17-4

In submitting these comments, neither SSDI nor GENTERRA have formulated a position in either support or opposition to the proposed project. The goals of improved train service flow and safety and the resulting benefits to improved vehicular traffic flow and reduced mobile source emissions are worthwhile public objectives that should be pursued, not only along that segment of BNSF track addressed in the DPEIR but along other track segments extending north and south beyond that 14.7 mile project area.

17-5

In selecting a "program EIR" (PEIR) as the appropriate manner of CEQA compliance, the Lead Agency itself asserts that the inclusion of 14.7-mile linear track improvement project and multiple grade crossings under the umbrella of a single CEQA document is based on the fact that the included activities "are all being proposed for implementation with the same geographic area, BNSF's east-west main line rail corridor" (p. 2-2). Rather than examining the entire corridor



**Responses to Comment Letter #17 (continued)**

- 17-2 This comment is noted and will be forwarded to the Department of Transportation decision-makers for consideration before project approval is made to allow the proposed project to be implemented. However, as will be shown in the following responses to comments, the environmental review does include an evaluation of the potential direct, indirect and cumulative impacts of the proposed project on Solid State Devices, Inc.'s (SDDI) existing facilities at 14830 Valley View Avenue, La Mirada, California, at least to the extent feasible at this programmatic stage of review.
- 17-3 This comment is noted and will be forwarded to the Department of Transportation decision-makers for consideration before project approval is made to allow the proposed project to be implemented. However, full environmental review has been performed for the proposed project, a reasonable range of alternatives has been identified for the level of impact identified and reasonable mitigation measures have been identified in order to avoid or minimize potentially significant environmental impacts. Furthermore, all of the foregoing, along with SDDI's comments and the following responses, will be fully considered by the Lead Agency before project approval is made.
- 17-4 This comment is noted and will be forwarded to the Department of Transportation decision-makers for consideration before project approval is made to allow the proposed project to be implemented. Please note, however, that the proposed project consists of a 14.7-mile stretch of the BNSF main line track between Basta and Hobart and grade separations, as it has been determined that this segment of the main line track includes all relevant parts of this component proposed project within the meaning of CEQA Guidelines Section 15165.
- 17-5 This comment contains a key contention regarding the project, i.e., that it is somehow related to other projects located within the Los Angeles Basin, and perhaps even beyond. However, the proposed project is a stand alone project which is separate and distinct from any other project being considered within Southern California.

One component of the proposed project, the third main track, is being sponsored and funded by Caltrans Division of Rail. No other agency is involved with this project component and the third main track is being proposed to specifically address the flow of rail traffic on the BNSF main line between Basta and Hobart. This two-track segment of the BNSF main line serves as a bottleneck in the main line system that causes delays for Amtrak trains, particularly those on the San Diego to Los Angeles segment of this system. Division of Rail funds were identified with the specific goal of increasing the efficiency of train flow on this stretch of the BNSF main line in order to better meet Amtrak train schedules. Thus, the proposed project's specific objective is to provide better passenger rail service on this stretch, by ensuring that arrival and departure schedules can be fulfilled. By assuring better passenger train service, the Division of Rail believes it can retain the existing passenger base. Coincidental to meeting this specific objective, several other benefits will accrue to train operations within this stretch. For example, Metrolink commuter trains will be better able to meet their schedules, freight train traffic will flow better, overall air emissions will be reduced by eliminating standing trains, and less overall noise will be generated within this stretch due to more even flow of train traffic and reduced starting, stopping and idling.

**Responses to Comment Letter #17 (continued)**

17-5 (cont.)

Installation of the Third Main Track on the 14.7-mile stretch between Basta and Hobart, on its own, is statutorily excluded from consideration under CEQA. Among other grounds, Section 21080(b) of the Public Resources Code states, "this division does not apply to any of the following activities...(10) a project for the institution or increase of passenger or commuter services on rail or highway rights-of-way already in use, including modernization of existing stations and parking facilities." The Third Main Track component of the proposed project is wholly within the BNSF right-of-way and therefore the project of installation of the Third Main Track is excluded from consideration under CEQA. Furthermore, State funds are being used to fund the Third Main Track project; therefore, no compliance with NEPA is necessary. These conclusions are consistent with State and Federal regulatory procedures, which place no limits on railroad-initiated improvements to their rail operating lines within their rights-of-way.

Notwithstanding the foregoing, a full environmental review was performed for the entirety of the proposed project due to the inclusion of the proposed grade separations. The Division of Rail took the initiative to assist the affected local communities in examining the seven proposed grade separations, which will eliminate rail/vehicle conflicts within the 14.7-mile stretch of the BNSF main line between Basta and Hobart. For the foregoing reasons, all of the proposed improvements within this stretch were considered together within one DEIR. Because these projects will be implemented independently over the next several years as funding becomes available, the programmatic process was particularly suited to the proposed actions. See, CEQA Guidelines Section 15168(a).

CEQA requires that the complete project be included in the environmental review to foster informed public review and to not minimize potential environmental impacts. The project description must include all relevant parts of a project, including reasonably foreseeable future expansions or other activities that are a reasonably foreseeable consequence of implementation of the project. CEQA Guidelines Section 15165. An activity must be included in the project description and analyzed in the environmental document if: (1) it is a reasonably foreseeable consequence of the initial project and (2) the future expansion or action is likely to change the scope and nature of the initial project or its environmental affects. *Laurel Heights Improvement Assn. v. Regents of the University of California* (1988) 47 Cal.3d 376, 396. Uncertain or speculative future activities not currently proposed for approval and that are not reasonably foreseeable consequences of the project that is proposed for approval need not be included in the environmental analysis. Where future development is unspecified and uncertain, no purpose can be served by requiring an EIR to engage in sheer speculation as to future environmental consequences. *Del Mar Terrace Conservancy, Inc. v. City Council of the City of San Diego*, (1992) 10 Cal.App.4th 712, 730.

Other than the proposed project, there are currently no rail improvement projects within the region that are defined to a level that would allow for meaningful environmental evaluation. Any potential rail improvement projects within the region are in the formative stages and are too uncertain and speculative to allow for meaningful environmental evaluation at this time. The DEIR prepared for the proposed project fulfills the requirement of evaluating project impacts and provides adequate information to the decision-makers regarding potential environmental impacts related to any of the projects' individual project components.

**Third Main Track and Seven Grade Separation Projects**  
**Burlington Northern Santa Fe Railroad Company East-West Main Line Railroad Tracks**  
Draft Environmental Impact Report, SCH No. 2002041111

17-5  
cont.

(e.g., "BNSF main line rail corridor currently has two main tracks that are utilized for freight services to and from eastern destinations and for passenger service to and from the Los Angeles, San Bernardino and Orange County/San Diego metropolitan areas," p. 2-1) and the other reasonably foreseeable expansion plan now being promulgated by the Department and other State agencies for that corridor, the Lead Agency has sought to analyze only an incremental component of "BNSF's east-west main line rail corridor" and has chosen to ignore the existence of other rail corridor improvements both within the focus area and extending north and south therefrom.

BNSF operates one of the largest intermodal networks in North America. As illustrated in the following exhibit, as extracted from a larger service area map available on BNSF's website (<http://www.bnsf.com/business/iabu/>), within the southern California area alone, BNSF has literally hundreds of miles of "main track," extending from Long Beach on the west to Needles on the east, and to Mojave on the north. In addition, BNSF has "trackage rights" that extend BNSF's service to National City on the south and to Kern Junction on the north.



Within the Los Angeles metropolitan area, BNSF's facilities are directly linked to the Port of Los Angeles, the Port of Long Beach, and to the Alameda Corridor. The two ports together form the third largest port complex in the world and the two largest in the United States. Twenty-five percent of all United States waterborne international trade passes through the Ports of Long Beach and Los Angeles before reaching markets. This represents more than \$116 billion in trade each year. With the expansion of the Pacific Rim marketplace, this trade is anticipated to double by the year 2010.

17-6

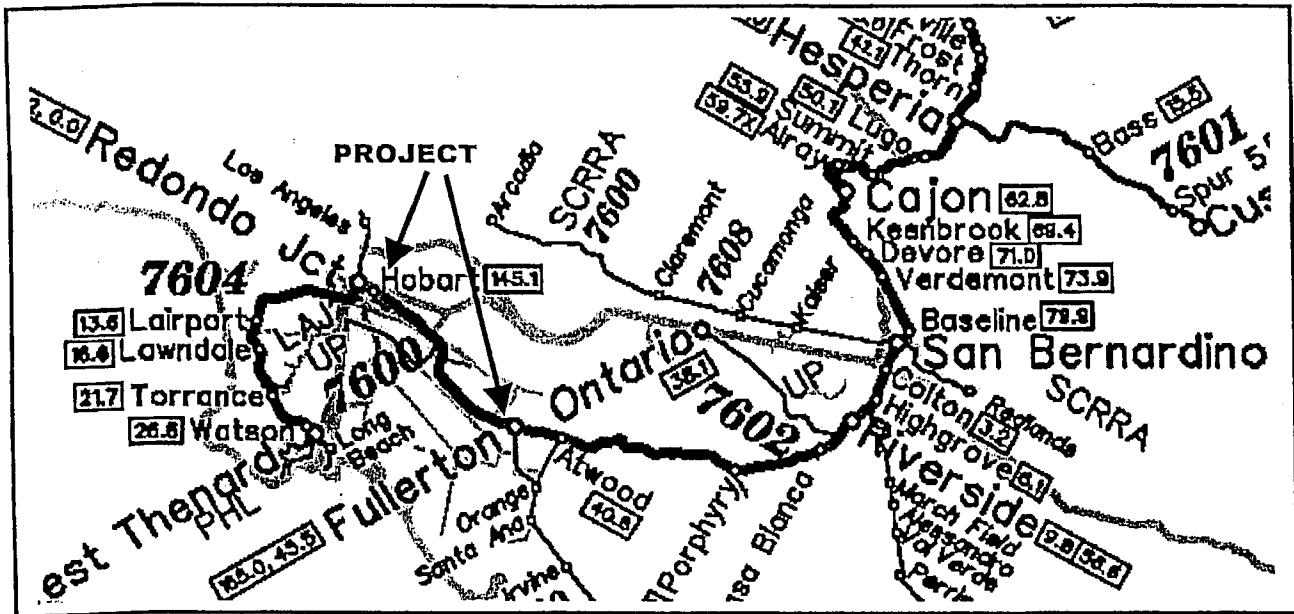
According to BNSF's own website, "the Alameda Corridor will be operated under a unique partnership between the Port of Los Angeles, the Port of Long Beach, BNSF and Union Pacific Railroad." It is, therefore, evident that the project now under review is only a component of BNSF's and other transportation planning agencies' larger capital improvement needs, tied to projected ports expansion, identified by BNSF and those regional transportation planning agencies that assist and support local, regional, and national rail planning efforts.

BNSF, through its primary subsidiary, BNSF Railway, is the second-largest railroad in the United States, behind Union Pacific (UP). BNSF operates through 28 states and in two Canadian provinces. The company operates its trains over a system of approximately 33,000 route miles, consisting of about 25,000 route miles owned by BNSF and about 8,000 route miles of trackage rights, which allow BNSF to operate its trains on tracks owned by other railroads. A copy of BNSF's entire nationwide route map is presented in Attachment A (BNSF Intermodal System Map) and by this reference made a part of these comments.

***Responses to Comment Letter #17 (continued)***

- 17-6      Please refer to response to comment 17-5. As described above, the proposed rail system improvements are specifically designed to enhance the flow of rail traffic and safety along the 14.7-mile stretch of the BNSF main line between Basta and Hobart. There are no other rail line improvement projects currently proposed that require environmental review within this DEIR. Therefore, the DEIR properly limited the scope of its analysis to the environmental impacts associated with the proposed project as described in the DEIR.

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In statements by Matthew K. Rose, President and Chief Executive Officer (CEO), on September 9, 2002, to the Western Coal Transportation Association (WCTA), BNSF's CEO noted: "By the end of 2002, BNSF will have spent about \$14 billion, or \$5.5 million per day to: improve our infrastructure – rails, ties, ballast, bridges, tunnels and yards. . .boosting intermodal lift capacity at hubs in Alliance, Texas, Los Angeles, San Bernardino, Chicago."

The CEO further noted that BNSF has also "added 500 miles of double and triple track in different parts of our 33,000 route-mile network, and have acquired some 1,700 locomotives and thousands of freight cars" and "we have been financial partners with the Department of Transportation in grade-crossing and grade-separation projects for years. And in April this year, we opened the Alameda Corridor, probably the largest public private partnership ever undertaken. . . An innovative solution that took twenty years to become a reality and has reduced transit time to about forty minutes from three hours in moving from the Ports of Long Beach and Los Angeles to our mainline to take these intermodal trains onto the Midwest" ([http://www.bnsf.com/news/articles/2002/09/2002-09-10a.html?index=/news/news\\_archive.html](http://www.bnsf.com/news/articles/2002/09/2002-09-10a.html?index=/news/news_archive.html)).

The above reference to the intermodal hub in Los Angeles is to BNSF's Hobart Yard. In *City of Vernon v. Public Utilities Commission, Atchison, Topeka & Santa Fe Railway (Santa Fe)* Santa Fe, one of the entities that combined to form BNSF, indicated "that it needed to expand the Hobart Yard in order to facilitate commerce in the Los Angeles area." As indicated in Table 1 (Existing Freight Volumes at Intermodal Facilities), in 2001, BNSF's Hobart Yard, which is identified in the DPEIR as one of the two "specific points along the BNSF's East-West Main Line Railroad Track that will be referenced for the mileposts" (p. 2-1) used to define the project's end points, was the largest of its 39 intermodal facilities located throughout the nation, in terms of volume. In 2001, a total of 1,041,000 units were lifted at that facility.

By 2002, as reported in BNSF's annual shareholders' report, volume at the Hobart Yard had increased by about five percent to 1,086,000 units and continued to remain BNSF's largest intermodal facility in the United States (<http://www.bnsf.com/media/assets/pdf/2002annrpt.pdf>). Hobart Yard is identified as "the busiest trailer and container-handling rail facility in the world"

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([http://www.cargo9.com/news/newsdocs/012103\\_BNSF.htm](http://www.cargo9.com/news/newsdocs/012103_BNSF.htm)). The northern end of the Alameda Corridor terminates at BNSF's Hobart and Union Pacific Railroad's Los Angeles rail yards.

Table 1  
**EXISTING FREIGHT VOLUMES AT INTERMODAL FACILITIES**

Intermodal Facility	Units
Hobart Yard (California)	1,041,000
Corwith Yard (Illinois)	739,000
Willow Springs (Illinois)	668,000
Chicago Hub Center (Illinois)	410,000
Alliance (Texas)	409,000
San Bernardino (California)	408,000
Argentine (Kansas)	257,000

Source: United States Security and Exchange Commission, The Burlington Northern and Santa Fe Railway Company, Annual Report Pursuant to Section 13 or 15(d) of the Security and Exchange Act of 1934, For the Fiscal Year Ending December 31, 2001, p. 3 ([http://www.bnsf.com/investors/assets/pdf/railway\\_10K\\_2001.pdf](http://www.bnsf.com/investors/assets/pdf/railway_10K_2001.pdf)).

As indicated on the website of two of BNSF's architectural and engineering vendors (Wilson & Company, Hanson-Wilson, Inc.): "Increasing volumes of freight traffic on Burlington Northern Santa Fe Railway caused slower transit times and delays due to lines operating at record levels and lack of capacity. Because of this, the need to build additional main trackage in single track areas was identified as a pressing issue. Hanson-Wilson Inc. is providing BNSF, and Santa Fe Railway prior to 1995, engineering, design, and construction management for the expansion construction. Ongoing since 1994, the projects have consisted of 275 miles of construction and an additional 175 miles of preliminary engineering" (<http://www.wilsonco.com/hwiproj/capimp.asp> and <http://www.hansonwilson.com/projects/capimp.asp>).

As further indicated in the Southern California Association of Government's (SCAG) "2001 Regional Transportation Plan – Community Link 21" (SCAG, 2001) (RTP): "The SCAG Region is served by two main line railroads (the Burlington Northern and Santa Fe Railway Co. [BNSF] and the Union Pacific Railroad [UP]). These railroads link Southern California with other regions and provide freight rail service within California. In 1995 these railroads moved more than 91 million tons of cargo in and out of Southern California. A total of \$1.8 billion is recommended for grade crossing improvement projects including the Orange County Gateway (Orangethorpe) Corridor Project. In addition, grade crossing projects are recommended on major railroad lines in Riverside, San Bernardino and Imperial Counties, Northern Los Angeles County and in the Gateway Cities, which lies at the center of regional truck movement due to its proximity to the Ports of Los Angeles and Long Beach" (RTP, pp. 17 and 22).

17-7

17-8

From each of the above declarations, a number of key points can be gleaned. First, the proposed project is not an isolated activity but rather one that is tied both to the recent completion of the Alameda Corridor and, either directly or indirectly, to the increased freightage that will be shipped along those lines from the Ports of Los Angeles and Long Beach. Second, since the project "starts off where Alameda Corridor left off," the proposed improvements can and should be considered an eastward extension of the Alameda Corridor and not as an isolated activity that would otherwise be proposed in the absence of that earlier project and the

***Responses to Comment Letter #17 (continued)***

- 17-7 Please refer to response to comment 17-5. As described above, this project is not tied to either completion of the Alameda Corridor or future increases in freight deliveries to the ports. The increase in future freight deliveries to the ports and the manner in which they will be shipped is not dependent upon the proposed project. Increases in future freight delivery is a function of international commerce and the need to ship freight from ports to eastern destinations. If such future increase and demand for freight transport to the east occurs, it will occur regardless of whether the proposed project is implemented. The proposed project will be constructed to improve efficiency of passenger rail operational schedules along the 14.7-mile stretch of the BNSF main line between Basta and Hobart, regardless of whether future freight demand increases, and there is no linkage between the proposed project and increases in future freight traffic.
- 17-8 Please refer to responses to comment 17-5 and 17-7. The proposed project is not an eastward extension of the Alameda Corridor.

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17-8 cont. expansion of port-related rail traffic. Third, because rail traffic on the BNSF east-west mainline neither begins at "Hobart" nor terminates at "Basta" (i.e., "from its beginning in the City of Commerce [Hobart] to its terminus in the City of Fullerton [Basta]," p. 3-2), the selection of the project area and the definition of the project's boundaries are both arbitrary and non-indicative of other rail improvements (e.g., additional/modified track configurations, intermodal facilities, rail junctions) and grade-separation projects that are planned, proposed, or underway along other contiguous segments of the BNSF line. Fourth, that segment of the BNSF rail line now under consideration constitutes only a small component of a much larger rail corridor or network (e.g., "BNSF indicates that no new right-of-way must be acquired to permit installation of the new third mainline track along this 23.66 km [14.7 mi] segment of the BNSF corridor" [emphasis added], p. 3-5) improvements along which must be examined from a system planning perspective.

17-11 To single out an arbitrary 14.7-mile segment for analysis ignores the likely environmental costs and possible environmental benefits that could be realized by adopting a broader perspective that focused not on a smaller segment of the area's freight and passenger rail system but on the totality or a specific "corridor" or, at minimum, either (a) a larger segment of that corridor that is now under review and/or (b) a more comprehensive assessment of a single segment's component parts (e.g., future expansion plans), including those on the drawing board and those merely in the minds of public and private transportation planners.

17-12 In comments by Matt Rose to the American Association of State Highway Transportation Officials on December 4, 2001, BNSF Chief Executive Officer noted: "As I'm sure you all agree, railroads can play an even larger role in taking trucks off the highways in certain areas. In Los Angeles, for example, building an interchange off Interstate 710 to our Hobart Intermodal center could reduce truck traffic from local streets and eliminate the associated air pollution, road congestion and repair, while boosting efficiency and service for the intermodal system" (<http://www.bnsf.com/media/assets/pdf/12042001MKR.pdf>). That multi-project perspective and the environmental benefits that could be derived from their consideration as part of a single "program-level" or "project-level" environmental assessment are, however, presently absent from the DPEIR.

17-13 GENTERRA is an independent environmental engineering consulting firm, tasked with the assignment of reviewing and formulating comments on the DPEIR. The document's authors are not attorneys and legal counsel did not participate in the drafting of these comments. As a result, the comments presented herein are not intended as legal opinions but, through their inclusion in the project's environmental review record, could be utilized by others should judicial remedies be pursued by SDDI or by another party.

17-14 As a mean of facilitating consideration and incorporation of these comments in the project's environmental review record, except as otherwise noted, all page references are to statements, information, exhibits, and appendices presented in the DPEIR. References and citation presented herein are intended solely to assist the Lead Agency in its consideration of these comments. To the extent that these comments are formally submitted to the Department within the noticed comment period on the DPEIR, requiring a formal response by the Lead Agency, unintended errors or omissions with regards to any of those references and/or citations should not be used as a basis for ignoring the broader intent of those comments.

In addition, throughout these comments, GENTERRA has attempted to provide specific references to statements in the DPEIR that address each of the issues that are raised herein.



**Responses to Comment Letter #17 (continued)**

- 17-9 Please refer to response to comment 17-5. The boundaries of the proposed project are not arbitrary. The beginning and end points of the proposed project represent the location where it has been determined that upgrades to the existing rail line are necessary to increase train flow efficiency. As stated above, the 14.7-mile stretch of the BNSF main line between Basta and Hobart is a two-track stretch which generally creates a bottleneck in the main line system that causes delays for Amtrak trains, particularly those on the San Diego to Los Angeles segment of the system. Basta, the Southern terminus of the proposed project, is a logical and essential starting point for the identified rail line improvements. Basta is the location where the BNSF main line splits, the southern extension heading toward San Diego and the eastern extension heading toward San Bernardino. Therefore, this area acts as a convergence of numerous passenger and freight trains necessitating the implementation of the identified rail line improvements to increase train flow and efficiency.
- 17-10 Please see Responses to Comments 17-5, 17-7 and 17-9. As described above, the proposed project is separate and discreet from other potential rail improvement projects within the region.
- 17-11 Please refer to response to comment 17-5 and 17-9. The DEIR does not improperly segment the proposed project in order to minimize the scope or intensity of the environmental impacts. CEQA Guidelines Section 15378 defines a project as "The whole of the action." CEQA requires that the complete project be included in the environmental review to foster informed public review and to not minimize potential environmental impacts. However, an activity must be included in the project only if it is a reasonably foreseeable consequence of the initial project and if the future expansion or action is likely to change the scope or nature of the initial project or its environmental affects. Uncertain or speculative future activities not currently proposed for approval and that are not reasonably foreseeable consequences of the project that is proposed for approval need not be included in the environmental analysis. Although there may be general ideas and concepts concerning the need for future rail line improvements in the region, there are no current plans for implementation of any other improvements other than those identified and included in the project description in the DEIR. At this point, any other improvements are too uncertain and speculative to allow for meaningful environmental evaluation. Therefore, the DEIR properly analyzed only those environment impacts associated with implementation of the rail line improvements along the 14.7-mile stretch of BNSF's main line between Basta and Hobart.
- 17-12 Please see Responses to Comments 17-5, 17-9 and 17-11. The referenced comments represent a general idea in concept concerning the need for a future improvement in the region. However, any such future improvement is too uncertain and speculative to allow for meaningful environmental evaluation at this time.
- 17-13 This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented.
- 17-14 This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented.

17-15

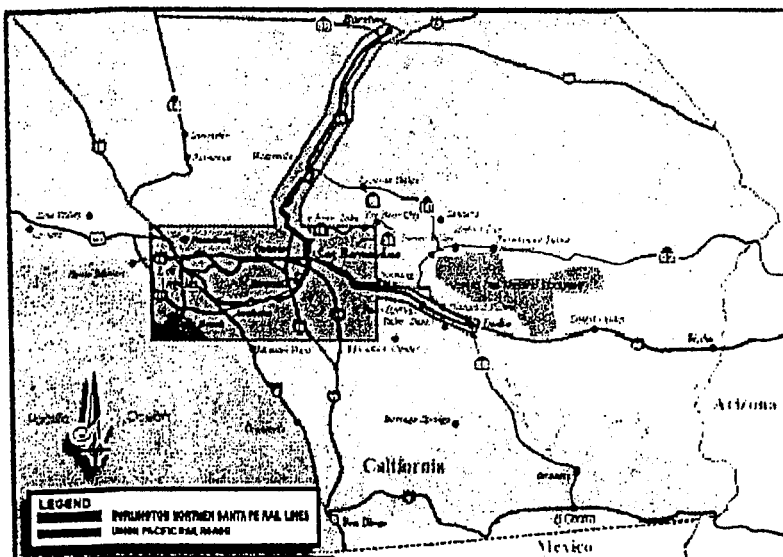
The examples cited are not intended to be inclusive of all excerpts from that document but only representative of the particular issue at hand. As such, should these comments be presented to the Lead Agency, predicated a formal response thereto, any such response should address not only the specific text which is indicated but the pervasive presence of the identified defect or deficiency evident throughout the document.

## 2.0 BACKGROUND INFORMATION ABSENT FROM THE DPEIR

### 2.1 GOODS MOVEMENT PROGRAM WHITE PAPER

As indicated in SCAG's "Goods Movement Program White Paper – A Survey of Regional Initiatives and a Discussion of Program Objectives" (SCAG, January 2002) (White Paper): "The development of greater cargo handling capacities at each of the region's three marine ports, and the increased volumes of freight that are expected to pass through these ports and over the region's surface transportation systems, will have a region-wide impact on economic efficiency, traffic congestion, vehicle safety, and transportation security. In line with current forecasts. . . daily rail trips along the UP and BNSF mainlines through the region will experience increases of 151% and 154%, respectively. Given these increases, it is envisioned that on-dock rail facilities could handle 30% of the container throughput, with the balance drayed to inland rail yards. In this case, the three main inland rail yards serving the ports (ICTF [Intermodal Container Transfer Facility], UP East Los Angeles, and BNSF Hobart) would experience a capacity deficit of up to 265,000 TEU/month [20-foot equivalent units/months]" (emphasis added) (White Paper, p. 8).

As further indicated therein: "Rail transportation services for goods movements are provided in the SCAG region along five principal rail alignments, which are each owned by one of the two Class I railroads operating in the region: the Union Pacific Railroad (UP) and the Burlington Northern Santa Fe (BNSF). The majority of rail freight operations move along the main-lines of each railroad – the San Bernardino Subdivision between Barstow and downtown Los Angeles for BNSF, and the Los Angeles Subdivision and Alhambra Subdivision for UP. BNSF's main-line runs over 64 miles of double, triple and some quadruple tracks, and the two main UP alignments include 119 miles of single, double, and triple track, inclusive of some 7 miles of trackage rights on BNSF lines" (White Paper, p. 14).



"These main rail alignments are shown in an overall graphic of the region's geography. . . Holding the number of passenger trains that share these lines with freight operations constant (though both Metrolink and Amtrak are planning to increase the number of trains they operate), without the addition of more tracks, flying junctions and grade separations, average delay per train will escalate rapidly and lead to a failure of the system well before 2010" (White Paper, p. 14).

***Responses to Comment Letter #17 (continued)***

- 17-15 This comment is noted and will be forwarded to the Department of Transportation Division of raildecision-makers for consideration before project approval is made to allow the proposed project to be implemented.

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The SCAG report also notes that "the Alameda Corridor East project is included in the RTP [Regional Transportation Plan] to provide a series of grade separation and isolated rail right-of-ways extending from the north end of the Alameda Corridor near downtown Los Angeles along the UP lines to Pomona. Similarly, a series of grade separations are included for the seven-mile long Orangethorpe Corridor along the BNSF line through Orange County. A key structure that will greatly enhance the operating efficiency of the entire regional rail system is the rail/rail grade separation project included for the Colton Crossing" (White Paper, pp. 15-16).

The terms "Orangethorpe Corridor" and "San Bernardino Subdivision" are the names most generally used to describe the BNSF right-of-way from the Los Angeles rail yard (Hobart), through Orange County, and east toward the continental heartland. As indicated in the Los Angeles Economic Development Corporation's (LAEDC) "Final Los Angeles – Inland Empire Railroad Main Line Advanced Planning Study" (Los Angeles Economic Development Corporation, October 1, 2002) (LAEDC Study), "the name 'Alameda Corridor East' can refer to the two UP lines running through the San Gabriel Valley as well as the UP San Gabriel lines plus BNSF line through Orange County. (The BNSF alone is known as the Orange County Gateway.) This study uses the more inclusive definition of Alameda Corridor East to denote all three lines connecting the Alameda Corridor (at Redondo Junction) and the Colton Crossing" (emphasis in original) (LAEDC Study, p. 1).

The SCAG report indicates that "BNSF has two to three tracks from LA to Fullerton, and two tracks in most places thence to Riverside. Adequacy of current and programmed track capacity would appear to be a major issue for east-west main line development within the urbanized area" (White Paper, p. 30). The study further notes:

With increasing international trade related to San Pedro Bay seaport growth, a smaller increase in domestic intermodal freight, and growing passenger traffic at least on the BNSF line, there appears to be a need for increased track capacity such that the UP would have a double track line throughout along its preferred route from LA to Colton (plus an additional single track on the other route), and for the BNSF to have a four track line from LA to Fullerton and three tracks thence to San Bernardino. Complementing these track capacity increases would be improvements to the signaling system as well as strategically placed crossovers, adequate drill tracks, and other track improvements to reduce interference between different classes of trains. . . From this viewpoint, main line improvements of the kind described here are essential to carrying the growing international and domestic rail traffic, as well as preventing an adverse shift back to the trucking mode for some of this traffic (emphasis added) (White Paper, p. 30).

17-16

From the declarations of SCAG and the LAEDC, it is immediately evident that the proposed project constitutes only a small segment of "San Bernardino Subdivision," that other rail improvement projects (e.g., Orangethorpe Corridor, Orange County Gateway, Alameda Corridor East) are now planned or already underway, and the identified need for BNSF improvements extends beyond the three main line project examined in the DPEIR. Notwithstanding the existence of these projects and the need for additional improvements beyond those described in the DPEIR, the Lead Agency asserts that "no other related projects are being considered for entitlement or development within the immediate vicinity of the proposed project" (p. 3-23). In fact, none of the above referenced rail line improvement projects or further expansion needs are ever referenced or addressed in the DPEIR.

***Responses to Comment Letter #17 (continued)***

- 17-16 Please see Responses to Comments 17-5, 17-9 and 17-11. The SCAG and LAEDC plans for future rail improvements are general ideas and concepts at this time and no actual plans have been developed delineating the method, placement or implementation of the improvements identified therein. The information contained in the SCAG and LAEDC concepts is too uncertain and speculative to allow for meaningful environmental evaluation at this time. The DEIR properly analyzed only those impacts associated with the implementation of the rail line improvements along the 14.7-mile stretch of the BNSF main line between Basta and Hobart.

17-17

In addition, notwithstanding the identified need for improvements to existing intermodal facilities, modifications to the manner with which those facilities are operated, and/or the demand for new terminals which serve as hubs for rail freight operations, absent from the DPEIR is any discussion of those facilities, their current operations, and/or the need for new or modified terminals. With regards to the need for improvements to existing intermodal rail yard and/or changes to their operation, the White Paper states:

Other than the on-dock facilities, these intermodal terminals are not equally available to both Class 1 railroads. This is so because each is owned by only a single carrier – there are no joint-use intermodal facilities. This is causing major imbalances in drayage truck movements, resulting in congestion on regional freeways and unwanted emissions, higher costs, and likely increased accidents. Specifically, while on-dock loading facilities at the ports are invaluable as a way to load large lots of containers to major inland destinations (e.g., Chicago), efficient logistics dictate that near-dock facilities are also needed to handle small lots of containers from multiple terminals. . . The BNSF would prefer to use Hobart Yard to load domestic trailers and containers at that downtown facility. Hence they would like a new ICTF of their own, perhaps at the old Watson Yard site. Implementation of a BNSF ICTF-type facility near the ports would reduce empty container miles and unnecessary drayage by trucks to downtown LA (White Paper, pp. 33-34).

17-18

The relationship between intermodal terminal expansion and the proposed project is evidenced, in part, by the recent (1998) expansion of both the size and capacity of the Hobart Yard. That expansion occurred under a separate environmental process and, absent from the DPEIR, is any discussion of the possible cumulative effects of the proposed project and the impacts associated with other past, pending, and reasonably foreseeable improvements to BNSF facilities and operations. That expansion occurred in the absence of any CEQA compliance and the impacts of that project, both alone and in combination with other BNSF (or Atchison, Topeka & Santa Fe Railway) facilities, have never been examined. BNSF's failure to examine the potential direct, indirect, and cumulative impacts of the larger rail facility improvement project of which both the Hobart Yard expansion and the current project are collectively a part is unreasonable in light of the CEQA mandate for environmental protection.

## **2.2 REGIONAL TRANSPORTATION PLAN**

### **2.2.1 Regional Transportation Plan**

SCAG's RTP "is a critical document in that it is necessary to assure federal and state funding. It should serve as a catalyst for linking the various transportation agency investments within the SCAG Region to provide a cohesive, balanced and multi-modal transportation system that addresses regional goals and is consistent with federal and state requirements" (RTP, Executive Summary, p. 1).

As further indicated therein: "Regional rail freight movements often conflict with highway commuter and Goods Movement traffic. With the anticipated increase in port traffic and total train movements of all kinds, substantial additional delay for passenger vehicles and trucks can be expected at grade crossings. To avoid these delays, grade separations carrying arterials under or over rail lines carrying substantial amounts of freight from the ports are recommended along

***Responses to Comment Letter #17 (continued)***

- 17-17 Please see Responses to Comments 17-5, 17-9 and 17-11. The only relevance of existing intermodal facilities to the proposed project is the generation of train trips that utilize BNSF's main line, which train trips have been analyzed in the DEIR. Any future improvements to existing intermodal facilities will require their own environmental evaluation in accordance with existing law. In addition, at this time, any general ideas or concepts with regard to new intermodal facilities or expansion of existing intermodal facilities are too uncertain and speculative to allow for meaningful environmental evaluation.
- 17-18 Please see Response to Comment 17-17. The Hobart Yard expansion project was statutorily excluded from consideration under CEQA. Moreover, the past and current operations at Hobart Yard have been considered in the DEIR as a result of the evaluation of impacts based on train traffic. The DEIR for the proposed project fully analyzes cumulative impact effects of past, present and future related projects. Moreover, the existence of an expanded Hobart Yard will not lead to an increased number of train trips along the BNSF main line in the area of the proposed project. The number of train trips is strictly dictated by economic factors and the demand for additional train trips, neither of which are affected by the existence of the proposed project. Any increase in train trips will occur regardless of the implementation of the proposed project.

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critical routes such as the Alameda Corridor East, including the Los Angeles-Orangethorpe-Riverside rail freight corridor (Orange County Gateway). A regional grade crossing improvement program is under development and will identify the critical grade crossing projects, including grade separation and at-grade crossing safety projects for both commuter and freight rail in the Region. As part of the improvement program, a financial program will be prepared" (emphasis added) (RTP, Strategic Investment, p. 93).

The RTP notes: "The ability of the SCAG Region to move goods efficiently and reliably lies at the center of our Region's future prosperity. With this in mind, the 2001 RTP includes key investments in the major Goods Movement corridors and modes, including truck lanes, railroad grade crossing projects, ports and port access and air cargo facilities. . . The Table below in [sic] shows the proposed grade-crossing corridor projects" (RTP, Executive Summary, pp. 21-22). Table 2 (Regional Transportation Plan Grade-Crossing Corridor Projects) is extracted from the RTP and indicates that numerous grade-crossing projects have been included in the RTP, which serves, in part, as the basis for the subsequent receive of State and federal fund for the implementation of those projects.

Table 2  
**REGIONAL TRANSPORTATION PLAN**  
**GRADE-CROSSING CORRIDOR PROJECTS**

Project	Implementation Schedule	Project Development Requirement/Status
<b>Imperial County</b>		
Imperial	2020	Individual Crossings Studied
<b>Los Angeles County</b>		
Los Angeles (including Gateway Cities, North Los Angeles County)	2025	Feasibility Study Completed/Individual Crossings Studied
<b>Orange County</b>		
Orangethorpe	2010	Feasibility Study Completed; Further Study Underway as the ONTRAC or Orange County Gateway Corridor
Orange-Olive	2010	Feasibility Study Completed
<b>Riverside County</b>		
Riverside	2025	Feasibility Study Completed
<b>San Bernardino County</b>		
San Bernardino	2025	Feasibility Study Completed

Source: SCAG, 2001 Regional Transportation Plan – Community Link 21, Executive Summary, p. 23; Strategic Investments, p. 93.

With regards to the "Orangethorpe Corridor," the RTP states: "The Orangethorpe Corridor component of the ACE [Alameda Corridor East] comprises 15 grade crossings extending about seven miles across northern Orange County, along the Burlington Northern – Santa Fe Railroad. It is part of a much longer rail corridor (about 60 miles) from Downtown Los Angeles to Colton Crossing via Riverside. The Orangethorpe Corridor is partially funded in the Baseline. Further study of potential track lowering through Placentia is currently under way as part of the Orange County Gateway Project, now called the Orange-North America Trade Rail Access Corridor



(ONTRAC). The Governor's Traffic Congestion Relief Program includes some of the funding for the Orangethorpe Corridor. Riverside County has recently completed a study of the ACE through Riverside and Colton Crossing" (emphasis added) (RTP, Strategic Investment, p. 95).

In addition to a more detailed discussion of "Alameda Corridor East," other "railroad main line corridors in San Bernardino and Riverside Counties," "grade crossings along the UP Yuma Main Line," and the "BNSF/UP Cajon Line," the RTP states: "The Gateway Cities Grade Crossing Program would improve railroad-highway crossings in the heavily industrial area north of the Ports of Los Angeles and Long Beach. Finally, improvements will be made along the Orange-Olive corridors in Orange County, between Fullerton/Placentia and the San Diego County line" (RTP, Strategic Investment, p. 95). As indicated in the above table, both the "Orangethorpe Corridor" and the "Orange-Olive Corridor" are proposed within the same implementation schedule (i.e., 2010).

As an "action" item, directed either toward SCAG itself or other transportation planning agencies, the RTP states: "Conduct a multi-county study of the grade crossing improvement needs for the Alameda Corridor East and the Los Angeles – Orange County – Riverside main line rail" (emphasis added) (RTP, Strategic Investment, p. 95).

In response to the issue of "growth of rail traffic" and the corresponding problem of "[h]ighway traffic/railroad interface at rail-highway crossings; rail/road conflicts including delay, capacity, and safety impacts," the "potential solution" promulgated by SCAG is to: (1) "Support expanded funding of highway-railroad grade separation and grade crossing improvement programs including, improvements to Alameda Corridor East and the Orangethorpe Corridor; projects outlined in the Inland Goods Movement Corridor Study (San Bernardino County), the Comprehensive Transportation Plan (Riverside County), and by the Gateway Cities; and additional projects in Ventura County, North LA County, and Imperial County"; (2) Support implementation of the Colton Crossing railroad-railroad grade separation"; and (3) "Provide adequate functional storage/working capacity in rail yards to provide separation of bulk, carload, and intermodal operations, and adequate main line capacity allowing faster classes of traffic to bypass slower trains" (RTP, Appendix E, p. E-9). Other "potential solutions" identified in the RTP include, but are not limited to "[p]rovide double and triple track CTC [Centralized Traffic Control], adequate sidings, railroad-railroad grade separations in key localities; improve through/run-around tracks in yards and interlocking improvements" (RTP, Appendix E, p. E-9).

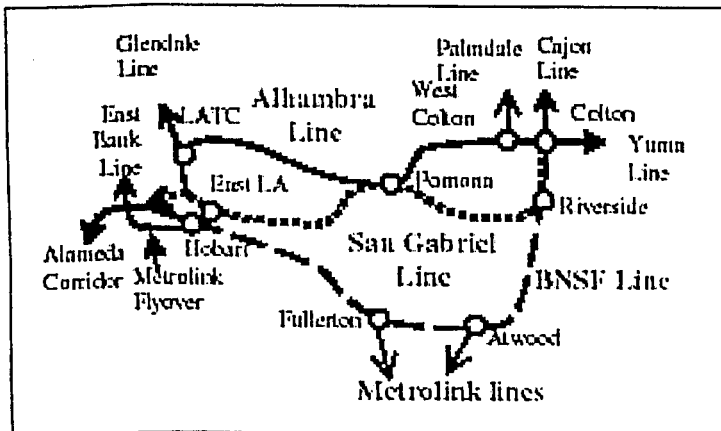
The fourteen projects "adopted" by SCAG's "Goods Movement Advisory Committee" (GMAC) included, but were not limited to: (1) "Regional Railroad Grade Crossing Improvements"; (2) "Alameda Corridor"; (3) "Alameda Corridor East and Orangethorpe Corridor" (RTP, Appendix E, p. E-26).

With regards to "railroad main line productivity," the RTP states: "Complementing the project to improve grade crossings between Los Angeles and the Inland Empire on the Union Pacific and Burlington Northern – Santa Fe main lines, is a need to evaluate railroad capacity on these lines to enhance the ability to move both passengers and freight with a minimum of delay. A corridor management plan should be developed for these east-west railroad lines between the Los Angeles Downtown rail yards (at the north end of the Alameda Corridor) and Colton Crossing to maintain or improve current levels of reliability and train speed" (RTP, Strategic Investment, p. 96). As an "action" item, the RTP states: "Conduct a comprehensive study of railroad east-west main line infrastructure to provide enhanced capacity and reliability of rail freight operations

linking the ports and Downtown rail yards with the Inland Empire and the rest of the country, while maintaining essential passenger services on the same lines and mitigating environmental impacts" (emphasis added) (RTP, Strategic Investment, p. 96). The "comprehensive study" is represented in the "Final Los Angeles – Inland Empire Railroad Main Line Advanced Planning Study" discussed below.

17-19

With regards to the Los Angeles – Inland Empire Trade Corridor, there is about 195 miles of track in this area. Rather than examining or even identifying the larger "Los Angeles-Orangethorpe-Riverside rail freight corridor (Orange County Gateway)," the entirety of the "BNSF Line" as illustrated in the following exhibit, or the "much longer rail corridor (about 60 miles) from Downtown Los Angeles to Colton," the DPEIR addresses only a small segment of that larger corridor and defines that incremental component as the totality of the project for the purpose of environmental compliance.



Similarly, although the "Orangethorpe Corridor" is proposed for implementation within the same time frame, its existence neither acknowledged by the Lead Agency nor is that corridor examined as a "related project" for the purpose of assessing the project's cumulative impacts. Although SCAG identifies a need for "15 grade crossings extending about seven miles across northern Orange County," the DPEIR seeks to examine only "up to seven grade separations" (p. 1-1).

17-20

17-21

Additionally, although BNSF has identified the need for a new Intermodal Container Transfer Facility (ICTF), that intermodal facility is never identified as a "related project" for the purpose of cumulative impact assessment. Although the need for a "comprehensive study" has been identified and is likely already underway or completed, absent from the DPEIR is any discussion of the proposed project's relationship with or context to that study.

## 2.2.2 Final Program Environmental Impact Report - Regional Transportation Plan

Prior to the adoption of the RTP by SCAG, SCAG prepared and certified a "Final Program Environmental Impact Report for the 2001 Regional Transportation Plan, SCH 2000091059" (RTP EIR). As indicated therein: "Individual projects are preliminarily identified in the RTP; however, this RTP EIR is programmatic in nature and does not specifically analyze these projects. Project-level analysis will be prepared by implementing agencies on a project-by-project basis" (RTP EIR, p. ES-1).

Both the RTP EIR (i.e., Figure PD-5 – Goods Movement Projects) and the RTP (Exhibit 5.8 – Goods Movement Projects) identify the "LA – Orangethorpe – Riverside Corridor" (RTP EIR) and the "ACE – LA, OR, RIV, SB" (RTP) as a single project, extending from the Hobart Yard (Los Angeles) to the Colton Crossing (San Bernardino). Both exhibits are included in Attachment B (Goods Movement Projects) and by this reference made a part of these comments. As indicated in the RTP EIR:

***Responses to Comment Letter #17 (continued)***

- 17-19 Please see Responses to Comments 17-5, 17-7, 17-9, 17-11 and 17-16 through 17-18. The proposed project is a separate and discreet project. The other improvements mentioned in this comment are general ideas and concepts and are too uncertain and speculative to allow for meaningful environmental evaluation at this time.
- 17-20 Please see Responses to Comments 17-5, 17-7, 17-9, 17-11 and 17-16 through 17-18. The proposed project is a separate and discreet project. The other improvements mentioned in this comment are general ideas and concepts and are too uncertain and speculative to allow for meaningful environmental evaluation at this time.
- 17-21 Please see Responses to Comments 17-5, 17-9, 17-11 and 17-16 through 17-18. The proposed project is a separate and discreet project. The other improvements mentioned in this comment are general ideas and concepts and are too uncertain and speculative to allow for meaningful environmental evaluation at this time.

The primary concerns of railroad grade crossings are safety, vehicle delay, community and emergency vehicle access, emissions resulting from vehicles waiting in queues, interference with traffic patterns at nearby intersections and noise. To help lessen these concerns grade separation projects carrying arterials either over or under railroad lines are recommended along critical routes. Two such routes are the Alameda Corridor East and the Los Angeles – Orangethorpe – Riverside rail freight corridor. A regional grade crossing improvement program is under development, which will identify the critical grade crossing projects. Feasibility studies or individual crossing studies have been completed in all six counties (emphasis added) (RTP EIR, p. PD-21).

17-22

Absent from the DPEIR is any reference to the RTP EIR or to the larger "Los Angeles – Orangethorpe – Riverside rail freight corridor." Similarly, the DPEIR fails to reference the "regional grade crossing improvement program," the list of "critical grade crossing projects," or the "feasibility studies or individual crossing studies" completed for both Los Angeles and Orange Counties. Although each of those programs, projects and studies clearly exist, and are critical to any understanding of the proposed project and its potential environmental impacts, information therefrom has been withheld by the Lead Agencies. Similarly, the Lead Agency fails to indicate the presence of an earlier program-level EIR addressing those proposed railroad grade-separation projects identified in the DPEIR, including the program-level mitigation measures that were adopted by SCAG for the RTP and its component parts.

17-23

Although the proposed project may be described as a component of a larger undertaking addressed in both the RTP and RTP EIR, since the DPEIR fails to identify, address, or evaluate that larger project and the current action's relationship to that larger undertaking, it is presumptuous to assert that the proposed project is, in fact, consistent with the RTP (e.g., "no impact analysis relative to federal guidelines by virtue of project consistency with the RTP," p. 4.2-13). Rather than merely presenting conclusionary statements, the Lead Agency is obligated under CEQA to present for public scrutiny its supporting rationale, particularly when that determination is used as a basis for failing to conduct an environmental analysis of the project's conformity with the "Federal guidelines for air quality impact assessment" (p. 4.2-12).

### **2.3 FINAL LOS ANGELES–INLAND EMPIRE RAILROAD MAIN LINE ADVANCED PLANNING STUDY**

As indicated in the "Final Los Angeles – Inland Empire Railroad Main Line Advanced Planning Study" (Los Angeles Economic Development Corporation, October 1, 2002) (LAEDC Study):

The completion of the Alameda Corridor Project in April 2002 marks the first step in a desperately needed upgrade of Southern California's rail infrastructure. The region's growing population and role as the nation's import hub for burgeoning Pacific Rim trade is driving rapid growth in container traffic at the ports of Los Angeles and Long Beach. The increase in container traffic is in turn fueling a dramatic increase in rail traffic. Accommodating future rail traffic demand will require major grade separation and improvement projects east of the Alameda Corridor terminus near downtown Los Angeles. Three rail lines form the Alameda Corridor East (Footnote) connecting the northern end of the Alameda Corridor at Redondo Junction to the Colton Crossing in San Bernardino County. The Burlington Northern Santa Fe (BNSF) line runs through northern Orange County

**Responses to Comment Letter #17 (continued)**

- 17-22 Please see Responses to Comments 17-5, 17-9 and 17-11. The documents referenced in this comment do not represent "projects" as defined by CEQA. CEQA Guidelines Section 15378 defines project as any activity which is being approved and which may be subject to several discretionary approvals by government agencies. CEQA Guidelines Section 15378(c). This definition of project makes it clear that an activity or proposal is not a project unless the activity will be the subject of discretionary governmental approvals. Moreover, as stated above, environmental analysis pursuant to CEQA need not analyze environmental impacts from activities which are too uncertain or speculative to provide meaningful analysis. See, *No Oil, Inc. v. City of Los Angeles* (1974), 13 Cal.3d 68. The documents referenced in this comment constitute broad-based conceptual planning documents and are not proposals for implementation of any specific project. There is no definitive plan for the implementation of the improvements identified in those documents, nor is there any time frame within which the improvements identified in those documents will be developed, if ever. Therefore, due to the uncertain and speculative nature of those documents, a meaningful environmental evaluation of the impacts resulting from any identified improvements cannot occur at this time. Moreover, should any of the identified improvements in those documents be proposed for development, a thorough environmental analysis of the environmental impacts of those improvements would have to be conducted at that time. No information has been withheld from the public as the full scope of the proposed project has been identified and examined in the DEIR. As noted in previous responses to comments, including Response to Comment 17-5, the proposed project is being implemented as a specific project by the Division of Rail and the proposed project and EIR are not subsequent environmental documents to any EIR prepared prior to the proposed project. This project supports the RTP as noted in Letter #6 from SCAG. Therefore, the DEIR properly limited its analysis to the environmental impacts associated with implementation and development of improvements to the 14.7-mile stretch of the BNSF main line between Basta and Hobart.
- 17-23 Please see Responses to Comments 17-5, 17-9, 17-11 and 17-22. As noted in previous responses to comments, including in Response to Comment 17-5, this is a stand-alone project and is not a component of any larger undertaking. In addition, please refer to the SCAG comment letter which finds the proposed project consistent with the RTP and regional plans. Regarding the reference to "Federal guidelines for air quality impact assessment", the source of funding for the proposed project is State funds, so no federal evaluation of the project is required.

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while the two Union Pacific (UP) lines – the Alhambra and LA – run through the San Gabriel Valley before intersecting with the BNSF line at Colton Crossing. The Southern California Association of Governments (SCAG) commissioned this study to forecast future rail traffic along the Alameda Corridor East, and to assess the need for infrastructure improvements. . . The study concludes with a brief outline of the next steps required to prepare the region's rail infrastructure to handle the substantial increase in freight and passenger traffic expected over the next twenty-plus years (emphasis added).

Footnote: Somewhat confusingly, the name "Alameda Corridor East" can refer to the two UP lines running through the San Gabriel Valley as well as the UP San Gabriel lines plus BNSF line through Orange County. (The BNSF alone is known as the Orange County Gateway.) This study uses the more inclusive definition of Alameda Corridor East to denote all three lines connecting the Alameda Corridor (at Redondo Junction) and the Colton Crossing (emphasis in original). (LAEDC Study, p. 1)

With regards to projected BNSF freight and passenger train traffic growth between 2000 and 2025 between Los Angeles (LA) and the Inland Empire, the LAEDC Study presented the following findings, as presented in Table 3 (2025 LA Inland Basin Train Forecast) and Table 4 (BNSF Peak-Day Rail Traffic for 2000, 2010 and 2025 on the LA Inland Basin Rail Network). As indicated therein BNSF's rail line operations are projected to increase from 103 average daily trains in 2000, to 155 in 2010, to 220 in 2025. Freight traffic is expected to more than double between 2000-2025. In addition, Metrolink and Amtrack will see passenger train levels increase dramatically. While "UP through freight moving on the BNSF line will decline," that is "only because it will be displaced by the increased number of BNSF freight trains" (LAEDC Study, p. 8). In addition, the LAEDC Study demonstrates the physical relationship between the Hobart-Fullerton, Fullerton-Atwood, Atwood-Riverside, and Riverside-Colton segments of the San Bernardino Subdivision.

Table 3  
**2025 LA INLAND BASIN TRAIN FORECAST**  
(Average Daily Trains)

	2000	2010	2025
<b>Freight</b>	112	165	250
BNSF <sup>1</sup>	57	80	120
UP	55	85	130
<b>Passenger</b>	58	100	140
BNSF <sup>1</sup>	46	75	100
UP	12	25	40
<b>Total – All Trains</b>	170	265	390
<b>Notes:</b>			
1. BNSF line moving east and south from downtown Los Angeles, intersecting with the I-710 and I-605, then moving through Orange and Riverside Counties.			

Source: LAEDC, Final Los Angeles – Inland Empire Railroad Main Line Advanced Planning Study, October 1, 2002, Table 5, p. 7 (Citing "Orange County Gateway Study [November 1999]; San Gabriel Valley Council of Governments Study; AB2928 Study [April 2001]; Metrolink and Amtrack).

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Table 4  
**BNSF PEAK-DAY RAIL TRAFFIC FOR 2000, 2010 AND 2025**  
**ON THE LA INLAND BASIN RAIL NETWORK**  
 (Number of Trains)

	Hobart-Fullerton	Fullerton-Atwood	Atwood-Riverside	Riverside-Colton
<b>Year 2000 Total</b>	96	52	74	103
BNSF through freight	50	50	57	57
Passenger	46	2	17	11
UP through freight	-	-	-	35
<b>Year 2010 Total</b>	150	94	120	120
BNSF through freight	74	74	82	82
Passenger	76	20	38	24
UP through freight	-	-	-	14
<b>Year 2025 Total</b>	218	144	183	174
BNSF through freight	112	112	121	121
Passenger	106	32	62	36
UP through freight	-	-	-	17

Source: LAEDC, Final Los Angeles – Inland Empire Railroad Main Line Advanced Planning Study, October 1, 2002, Table 6, p. 8.

Other studies contain even higher projections of future regional rail traffic activities. As indicated in "Using Simulation Modeling to Assess Rail Track Infrastructure in Densely Trafficked Metropolitan Areas" (Dessouky, Maged M. and Lu, Quan [University of Southern California] and Leachman, Robert C. [University of California, Berkeley]) as extracted from the Proceedings of 2002 Winter Simulation Conference (<http://www.informs-cs.org/wsc02papers/093.pdf>), which focused on rail traffic along the Los Angeles – Inland Empire Trade Corridor, the authors noted: "Today, there are around 141.5 freight trains per day and 101 passenger trains per day that use this portion of the rail network. By 2020, these numbers are expected to increase to 278.2 freight trains per day and 227 passenger trains per day."

As further indicated in the LAEDC Study: "BNSF has a single rail line running through the Alameda Corridor East from Redondo to Colton Crossing. For 46.4 miles of the route there are 2 main tracks; 16.6 miles have 3 main tracks; and 1.5 miles are covered by 4 main tracks. . .With a maximum capacity of 50 trains per day per line, both BNSF and UP will have track capacity shortfalls on certain line segments by 2010, barring any major improvements. . .This study examines possible upgrades to the Alameda Corridor East rail lines to handle the rising freight volumes" (LAEDC Study, pp. 12-13). In order to limit freight train delays in 2010 and 2025, with regards only to BNSF lines, the following rail improvements, as presented in Table 5 (Required Capacity Improvements on the LA Inland Basin Rail Network for each Routing Alternative) have been identified based on the range of alternative scenarios examined in the LAEDC Study.

As indicated by LAEDC, by 2010, BNSF will require three-track upgrades to not only the "Hobart-Fullerton" segment (which is addressed in the DPEIR) but also to the "Atwood-Colton" segment. More importantly, LAEDC concludes that those improvements will serve only as a short-term solution to the projected rail demands. By 2025, in order just to maintain the status quo, a fourth

track will then need to be added to both the "Hobart-Fullerton" and "Atwood-Colton" segments but, in addition, three main tracks will be required on the Atwood-Riverside" segment, a flying junction will be required at Riverside, and a grade separation will be required at the Colton Crossing. In addition, under the three additional scenarios examined therein, additional improvements beyond those addressed in the DPEIR will most certainly be required.

Table 5  
 REQUIRED CAPACITY IMPROVEMENTS ON THE  
 LA INLAND BASIN RAIL NETWORK FOR EACH ROUTING ALTERNATIVE

Year	2010	2025
<b>Status Quo</b>		
BNSF	3 main tracks, Hobart-Fullerton 3 main tracks, Atwood-Colton	4 main tracks, Hobart-Fullerton 4 main tracks, Atwood-Colton 3 main tracks, Atwood-Riverside Flying Junction at Riverside Grade separation of Colton Crossing
<b>BNSF Alternatives 1a, 1b, 2</b>		
	3 main tracks, Hobart-Fullerton 3 main tracks, Atwood-Colton	4 main tracks, Hobart-Fullerton 3 main tracks, Atwood-Colton Grade separation of Colton Crossing

Source: LAEDC, Final Los Angeles – Inland Empire Railroad Main Line Advanced Planning Study, October 1, 2002, Table 13, p. 17.

17-24

As such, the physical rail network includes not only line additions and upgrades (track segments) but also intramodal facilities, and rail junctions. The DPEIR includes no reference to or discussion of the identified need for further improvements to intramodal facilities, rail junctions, or those track segment along the BNSF line identified in the LAEDC Study (e.g., the identified need for improvements along other segments of the "San Bernardino Subdivision" and/or the identified need for further rail line improvements to the "Hobart-Fullerton" segment).

17-25

While "no new right-of-way must be acquired to permit installation of the new third mainline track along this 23.66 km (14.7 mi) segment of the BNSF corridor" (p. 3-5), no information or other analysis is presented anywhere therein whether any additional right-of-way will be required in the future in order to accommodate the other improvements identified in the LAEDC Study.

## 2.4 TRAFFIC CONGESTION RELIEF ACT OF 2000

In 2000, the Governor initiated a number of transportation proposals to help relieve traffic congestion. Those proposals resulted in the passage of the Traffic Congestion Relief Act of 2000 (AB 2928 and SB1662) (TCRA). The TCRA, as codified in Section 14556-14556.3 of the California Government Code (CGC), was established to finance congestion relief improvements, to dedicate the sales tax on gasoline to transportation purposes, and to create a Transportation Investment Fund to finance improvements to neighborhood streets and roads, to provide funding for transit operations and intercity rail, and to supplement the Traffic Congestion Relief Fund.

As indicated in Section 14556.40(a) of the CGC: "The following projects are eligible for grants from the fund for the purposes and amounts specified. . . (73) Alameda Corridor East; (Orangethorpe Corridor) build grade separations on Burlington Northern-Santa Fe line, Los



***Responses to Comment Letter #17 (continued)***

- 17-24 Please see Responses to Comments 17-5, 17-9, 17-11 and 17-22. This comment attempts to boot-strap other projects into consideration in the DEIR. However, no specific projects have been identified, the other improvements referred to in this comment being general ideas and concepts which are too uncertain and speculative to allow for meaningful environmental evaluation at this time. The components of the proposed project identified and evaluated in this DEIR are well defined and do not involve any facilities other than those specifically identified in connection with the proposed project. The DEIR properly limited its analysis to environmental impacts associated with the development and implementation of the rail line improvements identified in the DEIR.
- 17-25 Please see Responses to Comments 17-5, 17-9, 17-11 and 17-22. Any future rail line improvements identified in the LAEDC Study are not components of the project. There are currently no plans for development and implementation of other improvements identified in the LAEDC Study and the improvements identified in the LAEDC Study are too uncertain and speculative to allow for meaningful environmental evaluation at this time. See, *No Oil, Inc. v. City of Los Angeles* (1974), 13 Cal.3d 68. The DEIR correctly limited its analysis to the environmental impacts of the proposed project as described in the DEIR.

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Angeles County line through Santa Ana Canyon in Orange County. Twenty-eight million dollars (\$28,000,000). The lead applicant is the Orange County Transportation Authority."

17-26

Based on its inclusion in the TCRA as a single entity, the "project" which should be the subject to CEQA compliance is BNSF's "Los Angeles County line through Santa Ana Canyon in Orange County." Rather than examining that larger project as part of a single program-level or project-level environmental impact report (EIR), the Lead Agency has sought to examine only a small component of that larger project, fragmenting the project funded under the TCRA into separate components and separate environmental documents, each failing to reference the other, each with a lesser likelihood to produce significant environmental effects that would otherwise be identified if the totality of that larger project were to be examined as part of a single CEQA compliance effort.

As indicated in the Department's "2000 Annual Report to California Legislature" (California Department of Transportation, December 5, 2000) (2000 Annual Report), there exist three intercity rail corridors in California (e.g., "California's three corridors – the Capital, the Pacific Surfliner, and the San Joaquin – and the coastal route between San Francisco and Los Angeles, are all designated as one eligible corridor," 2000 Annual Report, p. 56). The TCRA addressed a number of transportation issues including those related to intercity rail and transit capital improvements. The TCRA also provided \$197 million from the General Fund to the Traffic Congestion Relief Fund (TCRF) for specific intercity rail improvements on the Capital, Pacific Surfliner, and San Joaquin rail corridors. Projects listed for funding in the TCRF are identified in Table 6 (Traffic Congestion Relief Act Intercity Rail Projects).

Table 6  
**TRAFFIC CONGESTION RELIEF ACT INTERCITY RAIL PROJECTS**

Bill Ref. No.	Project Description	County	Funds (millions)
9	Capital Corridor; improve intercity rail line between Oakland and San Jose, and at Jack London Square and Emeryville stations in Alameda and Santa Clara Counties	Regional	\$25.0
35	Pacific Surfliner; triple track intercity rail line within Los Angeles County and add run-through tracks through Los Angeles Union Station in Los Angeles County	Los Angeles	\$100.0
74	Pacific Surfliner; double track intercity rail line within San Diego County, and add maintenance yard in San Diego County	San Diego	\$47.0
92	San Joaquin Corridor; improve track and signals along San Joaquin intercity rail line near Hanford in Kings County	Kings County	\$10.0
99	San Joaquin Corridor; improve track and signals along San Joaquin intercity rail line in seven counties	Regional	\$15.0
Total			\$197.0

Source: California Department of Transportation, 2000 Annual Report to California Legislature, Volume I, December 5, 2000, p. 57.

17-27

TCRA Project No. 35 appears to include a major element of the project examined in the DPEIR (e.g., triple track intercity rail line in Los Angeles County). However, the above description of that line (i.e., intercity rail line) appears to differ substantially from that provided in the DPEIR wherein the entire focus of the environmental analysis is directed toward freight operations.

***Responses to Comment Letter #17 (continued)***

- 17-26 Please see Responses to Comments 17-5, 17-9, 17-11 and 17-22. Any other improvements within BNSF's "Los Angeles County line through Santa Ana Canyon and Orange County" are general ideas and concepts and are too uncertain and speculative to allow for meaningful environmental evaluation at this time. See, *No Oil, Inc. v. City of Los Angeles* (1974), 13 Cal.3d 68.
- 17-27 Please see Responses to Comments 17-5, 17-9, 17-11 and 17-22. The project referred to in this comment is a general idea or concept and is too uncertain and speculative to allow for meaningful environmental evaluation at this time. See, *No Oil, Inc. v. City of Los Angeles* (1974), 13 Cal.3d 68.

17-28 Similarly, TCRA Project No. 35 included not only the proposed "triple track intercity rail line within Los Angeles County" but also includes the addition of "run-through tracks through Los Angeles Union Station." That later project component is not addressed in the DPEIR and is the subject of a separate CEQA compliance effort. Although initiated defined and funded as a single project, the Lead Agency has fragmented that larger undertaking into two separate analyses, each of which ignores the existence of the other. If the two activities had been combined as part of a single environmental assessment or considered as "related projects" for the purpose of cumulative impact assessment, the resulting level of significance of the identified impacts would have been substantially greater than now disclosed in the DPEIR based on an isolated examination of each project and the Department's attempts to fragment and segregate the larger project into small incremental components for the purpose of avoiding or minimizing disclosure of the presence of significant adverse environmental effects.

## **2.5 FEDERAL TRANSPORTATION IMPROVEMENT PROGRAM**

As indicated in correspondence from Ervin Poka, Regional Administrator, Federal Transit Administration (FTA) and Gary N. Hamby, Division Administrator, Federal Highway Administration (FHWA) to Jeff Morales, Director, California Department of Transportation, dated April 15, 2003 (Re: FY 2002/03 to 2004/05 Federal Transportation Improvement Program; SCAG Highway and Transit FTIP Amendment #2) (<http://www.scag.ca.gov/rtip/>), "[t]his letter constitutes approval, and inclusion of SCAG's TIP Amendment #2 into California's 2002/03-2004/05 Federal Statewide Transportation Improvement Program (FSTIP), with the understanding that the eligibility of individual projects is subject to the applicant's satisfaction of all FTA and FHWA administrative requirements."

Projects listed on the "Final Regional Transportation Improvement Program (RTIP) Amendment #2 – Local Highway Projects" include, but are not limited to:

- (1) "VALLEY VIEW AVE GRADE SEPARATION AT BNSF RAILWAY SOUTH OF SAGE ROAD. CONSTRUCT A GRADE SEPARATION FOR VALLEY VIEW AVE FROM EXISTING BNSF TRACKS BY CONSTRUCTING A HWY UNDERPASS" (Lead Agency: Los Angeles County; Project LAOC8092);
- (2) "BNSF RAILWAY LINE (RAYMOND TO PLACENTIA) ALONG SS OF ORANGETHORPE. GRADE SEPARATION/CORRIDOR IMPROVEMENTS AT 3 ARTERIAL STREETS" (Lead Agency: Fullerton; Project ORA02925); and
- (3) "BNSF RWY LINE (PLACENTIA TO IMPERIAL HIGHWAY) ALONG SS OF ORANGETHORPE. LOWERING/GRADE SEPARATION PRELIM ENG. WORK INCLUD. TECH STUDIES, PROJ. REPT & EIR ACROSS NUMEROUS STS."; (2) "BNSF RAILWAY LINE (KRAMER BLVE TO KELLOGG DR) ALONG SS OF ORANGETHORPE, INSTALL SUPPLEMENTAL SAFETY MEASURES AT 8 AT-GRADE CROSSINGS (4.4 MILES)" (Lead Agency: Placentia; Project ORA02926).

17-29 From this abbreviated list, it is evident that other railway line and grade-separation projects, including both portions of the project and other proximal segments of the BNSF rail line, have been included in the RTIP. None of these projects, however, are identified in the DPEIR and no attempt has been made by the Lead Agency to consolidate these and other rail improvement and grade-separation projects into a single environmental analysis. In addition, since the "Valley View Avenue Grade Separation" has been included in the RTIP and "has been funded" (p. 3-22), that project and all other projects so listed are likely eligible to receive or have already received

***Responses to Comment Letter #17 (continued)***

- 17-28 Please see Responses to Comments 17-5, 17-9, 17-11 and 17-22. Although partial funding for engineering has occurred, no plans have been developed for a project involving run through tracks through Los Angeles Union Station. Accordingly, that project is too uncertain and speculative to allow for meaningful environmental evaluation at this time. See, *No Oil, Inc. v. City of Los Angeles* (1974), 13 Cal.3d 68. In addition, run through tracks through Los Angeles Union Station will not lead to an increased number of train trips along the 14.7-mile stretch of the BNSF main line between Basta and Hobart. The number of train trips is strictly dictated by economic factors and the demand for additional train trips. Any realized increase in train trips will occur regardless of implementation of the run through tracks through Los Angeles Union Station. The DEIR correctly limited its analysis to the environmental impacts of the proposed project as described in the DEIR
- 17-29 Please see Responses to Comments 17-5, 17-9, 17-11 and 17-22. There is no requirement to examine all of the projects on the RTP when an entity proposes to implement only one specific project. In this instance, the only project being considered is the proposed project and the other projects identified in the RTP are too uncertain and speculative to allow for meaningful environmental evaluation at this time. See, *No Oil, Inc. v. City of Los Angeles* (1974), 13 Cal.3d 68. In addition, the source of funding for the proposed project is State funding.

17-29  
Cont.

commitments for federal assistance. Although federal involvement in the project can, therefore, be reasonably anticipated, the DPEIR has not been prepared in accordance with the requirements of the National Environmental Policy Act (NEPA) and its implementing guidelines nor is any acknowledgement of that obligation included therein.

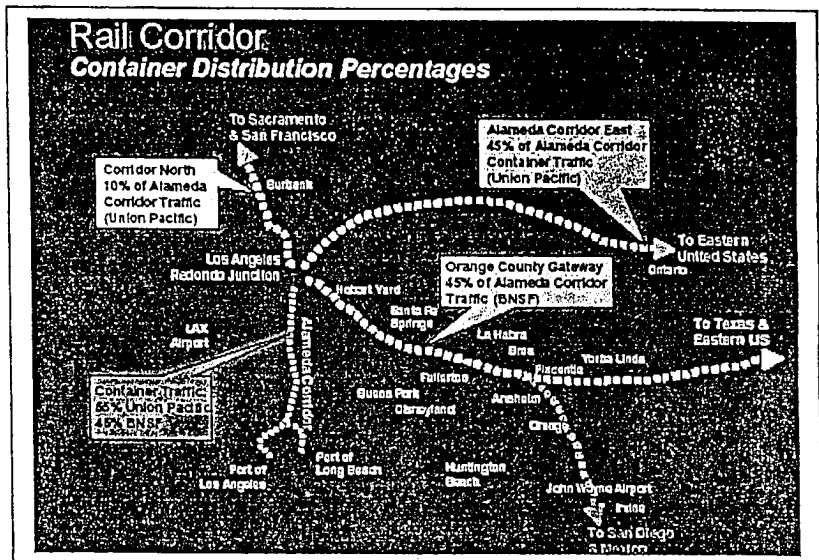
17-30

While the President's Council on Environmental Quality (CEQ) regulations for implementing NEPA require agencies to "cooperate with state and local agencies to the fullest extent possible to reduce duplication between NEPA and state and local requirements" (40 CFR Part 1506.2), no explanation is provided why the Lead Agency has elected not to prepare a joint environmental impact report/environmental impact statement (EIR/EIS) for the proposed project.

## 2.6 ORANGE NORTH-AMERICAN TRADE RAIL ACCESS CORRIDOR AUTHORITY

The accompanying exhibit was created by the Orange North-American Trade Rail Access Corridor (OnTrac) Authority for the California Office of Senate Research and indicates that 45 percent of all traffic originating along the Alameda Corridor will then be transported along the "Orange County Gateway."

As defined by OnTrac, the term "Orange County Gateway" is often used to refer to that portion of the "Orangethorpe Corridor" located within the Cities of Anaheim and Placentia.



What the exhibit demonstrates is both the relationship between the San Bernardino Subdivision, the Alameda Corridor East, and the Orangethorpe Corridor (Orange County Gateway) and the extent of rail traffic that will utilize those rail segments addressed in the DPEIR.

## 2.7 CALIFORNIA STATE RAIL PLAN – FREIGHT RAIL ELEMENT

As indicated in the "California State Rail Plan: 2001-02 to 2010-11" (California Department of Transportation, January 2002) (State Rail Plan): "In many areas of the State, passenger services share rail rights-of-way with freight railroads. For both passenger and freight railroads sharing a right-of-way, a primary issue is the capacity of the route to accommodate all train movements. Before a freight railroad grants a passenger operator use of its facilities, the railroad will require various capacity improvements to ensure the reliability of both freight and passenger services. . In some cases, capacity has proven insufficient to handle existing levels of both freight and passenger service, particularly in metropolitan areas with substantial freight and passenger traffic. Metrolink trains operate on time 95 percent of the time on Metrolink controlled trackage. On tracks owned by UP and BNSF, Metrolink trains operate on time 70 to 85 percent on time. When the trains ran late, the cause of the delay was attributed to BNSF freight trains 37 percent

***Responses to Comment Letter #17 (continued)***

- 17-30 Please see Responses to Comments 17-5, 17-9, 17-11, and 17-22. The source of funding for the proposed project is State funding. Without any federal nexus, NEPA compliance is not required for the individual components of the proposed project.

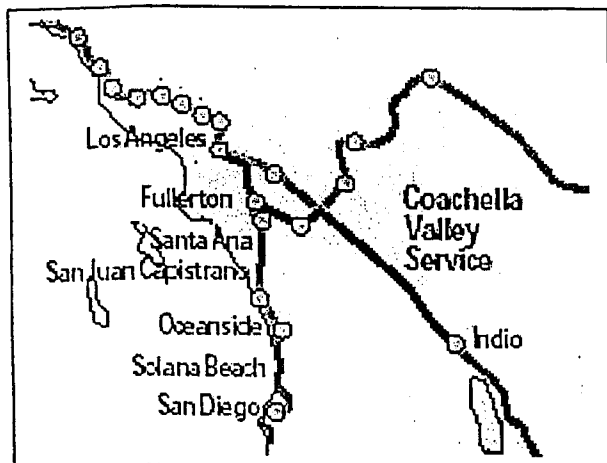
of the time. . . Heavy BNSF port rail traffic on their San Bernardino Subdivision between Los Angeles and San Bernardino also caused delays for Metrolink trains" (State Rail Plan, p. 119).

17-31

Since "[t]he track improvements between Hobart and Basta are not being implemented to allow for expanded rail traffic, although a future increase in the number of trains is projected" (p. 2-1), it is evident that the DPEIR has failed to consider and adequately address the use of the BNSF lines by multiple operators and for a dual use.

## **2.8 CALIFORNIA MAGLEV PROJECT**

As indicated in the State Rail Plan, in May 1999, the USDOT awarded the State a grant for preconstruction planning for Maglev high-speed ground transportation, providing up to two-thirds of the cost for preliminary engineering, market studies, environmental assessment, and financial planning in order to determine the feasibility of deploying a Maglev project. The initial corridor study of the California Maglev Project extends from the Los Angeles International Airport (LAX) to Union Station in downtown Los Angeles and further east to Ontario International Airport and on to March Field in Riverside County.



In June 2000, the California Maglev Project sponsors submitted a project description to the Federal Railroad Administration (FRA) for consideration in its evaluation of those projects competing for federal Maglev funding. Although the State's project was not one of the two projects selected by the USDOT in January 2001 to go forward in the national competition, the United States Congress earmarked \$1 million for the California project in the FY 2001 Transportation Appropriations Act. With this funding, SCAG will perform additional studies, including evaluation of the impacts of the project on the use of highway and railroad rights-of-way.

Although the alignment illustrated in the State Rail Plan differs from that examined in the "Final Programmatic Environmental Impact Statement – Maglev Deployment Program" (Office of Railroad Development, April 2001), absent from the DPEIR is any reference to the California Maglev Project or the potential use of the BNSF right-of-way as part of the proposed alignment for that high-speed rail system. Pending a revision to the State Rail Map, the DPEIR needs to consider the added facility demands and usage resulting therefrom. As such, the California Maglev Project constitutes a reasonably foreseeable future project that must be considered and the potential cumulative impacts of that project examined by the Lead Agency.

## **2.9 LOS ANGELES-SAN DIEGO RAIL CORRIDOR AGENCY**

17-32

The United States Secretary of Transportation (Secretary) is authorized to provide financial assistance to states (or authorities designated by one or more states) to fund crossing improvements that range from various options for improved warnings to physical closure or grade separation. This program extends and expands the program established under Section 1010 of the Intermodal Surface Transportation Efficiency Act (ISTEA). It is a two-part program



**Responses to Comment Letter #17 (continued)**

- 17-31 The DEIR analyzes the use of the proposed track improvements by multiple users, including passenger carriers and freight carriers. The use of the tracks by both passenger and freight trains is what leads to unacceptable congestion warranting the proposed project. Page 2-1 of the DEIR states that, "the Third Main Track will enhance efficiency of train movement along this corridor and will insure passenger train service can operate on a reliable schedule, which is a key aspect of rail passenger service that attracts additional passenger rail customers." Page 2-1 of the DEIR also states that, "At its current operating level (approximately 100 trains per day, mixed freight and passenger), schedule delays occur along this segment of the corridor, which result in trains being pulled over to sidings to allow other trains to pass. Such conflicts will be minimized in the future under both current and future train traffic volume." The primary purpose of the proposed project is to enhance the efficiency of traffic flow through the 14.7-mile stretch of the BNSF main line between Basta and Hobart.
- 17-32 The matters referenced in this comment do not represent "projects" as defined by CEQA. CEQA Guidelines Section 15378 defines project as any activity which is being approved and which may be subject to several discretionary approvals by government agencies. CEQA Guidelines Section 15378(c). This definition of project makes it clear that an activity or proposal is not a project unless the activity will be the subject of discretionary governmental approvals. Moreover, as stated above, environmental analysis pursuant to CEQA need not analyze environmental impacts from activities which are too uncertain or speculative to provide for meaningful environmental evaluation. See, *No Oil, Inc. v. City of Los Angeles* (1974), 13 Cal.3d 68. The matters referenced in this comment constitute general ideas and concepts and are not proposals for implementation of any specific project. There is no definitive plan for the implementation of identified improvements, nor is there any time frame within which the identified improvements will be developed, if ever. Therefore, due to the uncertain speculative nature of those documents, a meaningful environmental evaluation of the impacts resulting from any identified improvements cannot occur at this time. Moreover, should any of the identified improvements in those documents be proposed for development, a thorough environmental analysis of the environmental impacts of those improvements would have to be conducted at that time.

that, first, designates passenger rail corridors as eligible for funding and, second, provides funds in response to applications for improvements at specific highway/rail grade crossings.

Section 1010 of ISTEA identified five corridors nationwide to be developed into high-speed rail corridors. One of these corridors was the Los Angeles-San Diego Rail Corridor Agency (LOSSAN) State Passenger High Speed Corridor. Section 3030(b)(26) of the Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21) authorizes the LOSSAN Rail Corridor for alternatives analysis and preliminary engineering.

The purpose of the federal high-speed rail grade-crossing improvement program, as provided in Section 1103(c) of the TEA-21, is to reduce or eliminate the hazards at highway-rail grade crossings in those designated high-speed corridors delineated in TEA-21. Corridors identified under the ISTEA authorization also remain eligible, including the California corridor linking Los Angeles, San Diego, Sacramento, and the San Francisco Bay Area.

LOSSAN, a Joint Powers Authority (JPA) operating in Los Angeles, Orange, and San Diego Counties, was created to improve the rail system between San Diego and Los Angeles, along a 126-mile corridor with 21 stations. This rail corridor is used by both passenger (intercity and commuter rail) and freight service and includes that BNSF right-of-way examined in the DPEIR.

As indicated in a LOSSAN "briefing package," included in Attachment C (LOSSAN Rail Corridor Improvements Technical Studies): "The California High Speed Rail Authority is preparing a Program Environmental Impact Report/Statement for a statewide high-speed train system, in which service from Los Angeles through Orange County to San Diego is a significant component. The California Department of Transportation is preparing a Program EIR/EIS for incremental improvements along the Los Angeles to San Diego corridor. The Federal Railroad Administration is the federal lead agency for both documents." The upgrades under consideration include, but are not limited to, "[c]ompleting or substantially completing a fourth track from Commerce to Fullerton" and "[c]onsidering full or partial grade-separation." As further indicated therein: "This study will consider the feasibility of an additional fourth main track from Hobart to Fullerton. In addition, general station improvements and possible grade-separations will also be considered in this technical study."

A copy of the "Notice of Preparation" announcing the commencement of that programmatic analysis for that Statewide high-speed train system is included in Attachment D (Notice of Preparation - Proposed Improvements to the Rail Corridor Extending from Los Angeles to San Diego via Orange County).

Again, the DPEIR includes no reference to or discussion of any planned, proposed, or pending actions or activities that could modify the project or, in combination with the proposed action, result in the generation of or increase the severity of project-related and cumulative environmental effects.

## **2.10 AMTRAK CALIFORNIA PASSENGER RAIL STUDIES**

On May 15, 2000, the National Railroad Passenger Corporation (Amtrak) published the draft "Final Five-Year Rail Improvement Plan Summary Report" detailing \$4 billion of investments in California's rail corridors. All of the intercity rail investments identified in the Governor's Traffic

***Responses to Comment Letter #17 (continued)***

- 17-33 Please see Response to Comment 17-32. Without limiting the generality of Comment 17-32, the referenced evaluation of the Lossan Rail Corridor is preliminary and is not a project that is being proposed for funding and construction. The Lossan Rail Corridor project was not considered in the DEIR because plans for the project are too uncertain and speculative to allow for meaningful environmental evaluation. See, *No Oil, Inc. v. City of Los Angeles* (1974), 13 Cal.3d 68.

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Congestion Relief Plan (TCRP) are among the highest priority incremental improvements included in Amtrak's five-year plan.

On March 5, 2001, Amtrak released a \$10.1 billion "California Passenger Rail System 20-Year Improvement Plan" for existing and emerging rail corridors. This initiative, managed by Amtrak, provides the blueprint for implementation of high-speed rail on existing tracks in California, including cost, ridership and trip time impacts from specific upgrades. Over the past three years, Governor Davis proposed and the California Legislature approved some \$400 million for upgrading the State's intercity passenger rail lines. This funding will enable the State to initiate implementation of many of the improvements identified in the 20-year plan.

As indicated on Amtrak's website (<http://www.amtrak.com/about/government-hsr-index.html>), work has begun on the following projects included in the 20-year plan: (1) Pacific Surfliner Corridor Upgrades ("Several projects to increase capacity on this heavily-used line are under way. A third main line track is under design between Whittier and Fullerton. Conversion of a siding at San Onofre, near Camp Pendleton, to a second main line track also is now underway. A similar project is under design at Flores. These additional tracks will permit speeds up to 90 mph and ease rail congestion, permitting greater service reliability and additional frequencies"); and (2) Los Angeles Union Station Through Tracks ("Amtrak is managing a California-funded project to provide through-tracks at Los Angeles Union Station. The new tracks will reduce travel time between San Diego and Los Angeles, greatly enhance the ability to operate service north to Santa Barbara, and provide the capacity to permit increases in train service").

17-34

It is immediately evident that the "third main line track" situated "between Whittier and Fullerton" constitutes a component of the project examined in the DPEIR. It is further evident that the remaining components of the Pacific Surfliner Corridor Upgrade (e.g., "Conversion of a siding at San Onofre, near Camp Pendleton, to a second main line track also is now underway. A similar project is under design at Flores") are neither addressed nor referenced in the DPEIR despite their inclusion as part of the larger project encompassing the Pacific Surfliner corridor.

## **2.11 CALIFORNIA INTERCITY RAIL CAPITAL PROGRAM**

On September 1, 2002, the Department released the "California Intercity Rail Capital Program" (IRCP) listing the investments, by location, funding source, and year for all capital projects that benefit intercity rail passenger service in California. With regards to only the Pacific Surfliner South, which includes that segment of the BNSF route addressed in the DPEIR, and with regards to only those identified track and signal projects located in southern Los Angeles and northern Orange County, Table 7 (Intercity Rail Capital Program – Pacific Surfliner South Track and Signal Projects) identified those projects that have already received funding commitments.

It should be noted, however, that the following list is not intended to be inclusive of all listed projects located along and adjacent to the Pacific Surfliner South corridor. A more complete listing of projects listed in the IRCP is presented in Attachment E (California Intercity Rail Capital Program – Pacific Surfliner Route – South Only).

With regards to the "Los Angeles – Fullerton Triple Track" project, the "California Intercity Rail Capital Program" states that this project is only a "[p]ortion of \$100,000,000 TCRF Project 35; balance for Los Angeles Union Station Run Through Tracks (\$28,000,000) and Los Angeles Union Station Fifth Lead Track (\$5,064,000)" (IRCP, Pacific Surfliner Route-South, p. 16). Only

***Responses to Comment Letter #17 (continued)***

- 17-34 Please see Response to Comment 17-32. Without limiting the generality of Comment 17-32, the referenced evaluation of the Lossan Rail Corridor is preliminary and is not a project that is being proposed for funding and construction. The Lossan Rail Corridor project was not considered in the DEIR because plans for the project are too uncertain and speculative to allow for meaningful environmental evaluation. See, *No Oil, Inc. v. City of Los Angeles* (1974), 13 Cal.3d 68.

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one of those three components of TCR Fund Project No. 35 is, however, examined in the DPEIR and no reference to the additional two components is presented anywhere therein.

Table 7  
**INTERCITY RAIL CAPITAL PROGRAM**  
**PACIFIC SURFLINER SOUTH TRACK AND SIGNAL PROJECTS**

Track and Signal Projects	Funding Amount
Los Angeles-Fullerton Triple Track	\$66,936,000
Terminal Tower Interlocking Improvements	13,250,000
Central Control Facility Relocation	2,500,000
Los Angeles Consolidated Signal System	11,041,000
Mission Tower-Redondo Junction Industry Track	800,000
River Corridor Track and Signal Improvements – South of LA	3,216,000
Redondo Junction-Alameda Corridor Flyover	114,138,899
Commerce Track Improvements	2,868,000
Los Angeles County Grade Crossing Improvements	1,200,000
Los Angeles-Fullerton Track Improvements	18,668,310
Bandini to DT Junction-Third Main Rail	17,700,000
Santa Fe Springs Grade Crossing Improvements	115,999
DT Junction to La Mirada Third Track	8,000,000
La Mirada to Basta Third Track	2,900,000
Data Radio/Electronic Coded Tack Circuits	7,223,624
Orange County Signal Improvements	257,690
Orange County Track Improvements	1,178,295
Orange County Track and Signal Improvements	150,000
Orange County Double & Triple Track	29,500,000
Anaheim Road Crossing – La Palma and State College	486,059
Fullerton-Orange Track and Signal Improvements – Area A	32,245,000
Fullerton-Santa Ana Rail Replacement – Phase I	8,000,000
Orange-Santa Ana Track and Signal Improvements – Area B	4,022,000
Orange-Santa Ana Track Improvements	360,000
Lincoln Avenue Double Track	40,153,000
Santa Ana-Galivan Track and Signal Improvements – Area D	11,000,000
Santa Ana-San Juan Capistrano Rail Replacement – Phase II	600,000
Orange County Track Improvements	207,000
Santa Ana Block Signal	5,500,000
Santa Ana Pedestrian Bridge	147,928
Tustin Turnout (South of I-55) Rehabilitation	660,000

Source: California Department of Transportation, California Intercity Rail Capital Program, September 1, 2002, Section A2 (Pacific Surfliner Route – South).

17-35

It is, therefore, disingenuous for the Lead Agency to assert that "no other related projects are being considered for entitlement or development within the immediate vicinity of the proposed project" (p. 3-23), that "no other projects are currently being considered or implemented that could adversely impact resources within the proposed project area or areas of potential impact" (p. 3-23), and that "no projects were identified that would directly affect the area of specific project elements" (p. 4.8-18).

As further indicated in Attachment E (California Intercity Rail Capital Program – Pacific Surfliner Route – South Only), excluding the FRA's (23 U.S.C. 104[d][2]) funding earmarked for "ID No. R712SA: Santa Fe Springs Grade Crossing Improvements (Install warning devices in medians of grade crossing at Rosecrans Avenue and Marquardt Avenue)" because that project is not explicitly identified in the DPEIR although located along the BNSF segment addressed therein, funding sources for "ID No. R712SA: Bandini to DT Junction-Third Main Tract (Construction three miles of third main track at Bandini in Commerce, Montebello and Pico Rivera)," "ID No. R889SA: DT Junction to La Mirada Third Main Tract (Construct Triple Track; Prepare environmental documentation and engineering for 5.6 miles of third main track)," and "ID No. R890SA: La Mirada to Basta Third Tract (Prepare environmental documentation and engineering for 5.5 miles of third main track) include not only BNSF funding but also: (1) Interregional Transportation Improvement Program – State Highway Account (ITIP-SHA); (2) Amtrack.

17-36

Since Amtrak is a government chartered corporation, established in 1970 by the Rail Passenger Service Act, which is partially funded by the federal government to provide railroad passenger service, it is likely that any allocation of Amtrack funds would be subject to NEPA compliance. In addition, the Section 104(d)(2) Program, as modified by Section 1103(c) of TEA-21, provides federal funding to eliminate highway-railroad grade-crossing hazards in designated high-speed rail corridors. The "California Corridor (San Francisco Bay Area to Los Angeles and San Diego)" is so designated. In addition, to the extent that any Section 104(d)(2) funds would be involved in any aspect or component of the project, those funds would also be subject to NEPA compliance.

## **2.12 CALIFORNIA STREET AND HIGHWAY CODE**

As defined in Section 2450(b) of the Street and Highway Code (S&HC), for the purpose of grade-separation projects, the term "[p]roject" means the grade separation and all approaches, ramps, connections, drainage, and other construction required to make the grade separation operable and to effect the separation of grades. Such grade separation project may include provision for separation of nonmotorized traffic from the vehicular roadway and the railroad tracks. If a separation of nonmotorized traffic is not to be included in a project, there shall be an affirmative finding that the separation of nonmotorized traffic is not in the public interest."

As further indicated in Section 2452 therein:

Prior to July 1 of each year, commencing with 1974, the Public Utilities Commission shall establish a list, in order of priority, of projects which the commission determines to be most urgently in need of separation or alteration. Such priority list shall be determined on the basis of criteria established by the Public Utilities Commission. Where a project involves the relocation of railroad tracks or highways and the closure of grade crossings, the Public Utilities Commission shall indicate on the priority list which of the grade crossings eliminated would have been considered urgently in need of a grade separation.

***Responses to Comment Letter #17 (continued)***

- 17-35 Please see Responses to Comments 17-5, 17-9, 17-11 and 17-32. The quoted text from the DEIR is accurate. The "California Intercity Rail Capital Program" list does not identify any other projects that are currently being funded, engineering or implemented. Each jurisdiction involved in the process was consulted to determine whether specific projects are proposed for implementation within the area of potential impact by the proposed project, and none were identified. The list shown on Table 7 does not discuss actual implementation of any specific project, but is merely a list of projects that the state would like to see funded and implemented. These projects are general ideas and concepts and are too uncertain and speculative to allow for meaningful environmental evaluation at this time. See, *No Oil, Inc. v. City of Los Angeles* (1974), 13 Cal.3d 68. The commentator has not identified any specific projects within the area of potential impact by the proposed project that require evaluation in the DEIR.
- 17-36 This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. The source of funding for the proposed project is State funding. Please refer to responses to comments 17-29 and 17-30. When originally formulated, none of the proposed project components were going to use federal funding. Therefore, no federal nexus exists and no NEPA documentation is required.



However, as indicated in Section 2454.5 of the S&HC: "(a) Whenever the National Railroad Passenger Corporation (AMTRAK) contributes an amount equal to one-third of the total cost to the state and local agencies of a grade separation project, or any lesser percentage as the National Railroad Passenger Corporation (AMTRAK) and the California Transportation Commission may agree upon, the cost to the participating parties under existing law shall be reduced proportionately. (b) Any such grade separation project may be assigned a priority by the Public Utilities Commission that is higher than the priorities assigned to all other such projects for which the National Railroad Passenger Corporation (AMTRAK) has not made a contribution."

From the funds set aside pursuant to Section 190, as well as from any other funds that may be set aside for purposes of this chapter, the California Transportation Commission (CTC) shall make allocations for projects contained in the latest priority list established pursuant to Section 2452. Such allocations shall be made for preconstruction costs and construction costs. Where allocations are made to a local agency, the requirements of Sections 2456 and 2457 of the S&HC shall first be met (Section 2453, S&HC). From funds remaining after allocations for projects higher on the priority list, the commission shall offer to allocate the remaining funds for the next eligible project on the priority list, even though the amount of the remaining funds is less than the amount the local agency is entitled to for that project (Section 2460.5 S&HC). A project that is on the priority list may be constructed by a local agency prior to the time that it reaches a high enough priority for funding under this chapter (Section 2460.7, S&HC).

17-37

Absent from the DPEIR is any discussion of the applicable provisions of the S&HC, including whether any of the proposed grade crossing projects have been included on the list promulgated by the CPUC pursuant to Section 2452 therein, the ranking of each of those grade separation projects, and the anticipated source or sources of local, State, and federal funding (e.g., Amtrak) for all project-related improvements.

### **3.0 GENERAL DEFECTS WITH THE DPEIR**

Under CEQA, the California Supreme Court has stated that CEQA's procedures must be "scrupulously followed," because CEQA's environmental review process "protects not only the environment but also informed self-government" (Laurel Heights Improvement Association of San Francisco, Inc. v. Regents of the University of California). The following comments are, therefore, submitted for the purpose of: (1) assisting the Lead Agency in fulfilling the legislative intent of CEQA; (2) identifying specific deficiencies with the DPEIR that must be corrected to allow for full disclosure and mitigation of the project's potential direct, indirect, and cumulative environmental impacts; and (3) promoting the identification and selection of a project or an alternative to the proposed project whose implementation would minimize or avoid possible significant environmental effects not only on the SSDI's property but throughout the general project area.

17-38

While applauding the Lead Agency for its efforts to address multiple projects as part of a single program-level EIR (as mandated under 14 CCR 15165), those efforts have failed to produce an environmental record sufficient to allow for informed decisionmaking. Regrettably, the document's defects are not so limited as to allow for correction merely through the preparation of written responses to the comments submitted but will necessitate a substantive augmentation of the existing analyses and a recirculation of the draft document for a second round of comments.

***Responses to Comment Letter #17 (continued)***

- 17-37 As explained in Response to Comment 17-5, after conferring with the affected cities and counties, the Department of Transportation Division of Rail determined to evaluate the seven grade separations identified in the project description and the 14.7-miles stretch of the BNSF main line between Basta and Hobart. The "ranking" of the grade separations by the CPUC is not relevant to the evaluation in the DEIR.
- 17-38 The Lead Agency is required to recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the draft EIR for public review, but before certification (CEQA Guidelines Section 15088.5). "Significant new information" requiring recirculation includes information showing that (1) a new significant environmental impact will result from the project or from a new mitigation measure proposed to be implemented, (2) a substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance, (3) a feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project proponents decline to adopt it and (4) the DEIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded. See, *Laurel Heights Improvement Association v. Regents of University of California* (1993) 6 Cal.4th 11, 12. In the present case, no significant new information has arisen that alters the environmental analysis contained in the DEIR. Therefore, the Lead Agency is not required to recirculate the DEIR for further public review.

Presented in the following section is a general overview of some of the major defects that have been identified with the DPEIR. The order presented is not intended to suggest a prioritization of the issues raised. Although much of the information and many of the statements presented herein are not drafted in the form of a question, the Lead Agency should assume that all statements presented herein are intended to elicit a formal written response, as if phrased in the form of a question. Examples cited are only intended to be illustrative and not inclusive of portions of the DPEIR related to the particular issue at hand.

### **3.1 FAILURE TO PRESENT AN ADEQUATE ALTERNATIVES ANALYSIS**

#### **3.1.1 Failure to Identify and Consider a Reasonable Range of Alternatives**

17-39

In *Laurel Heights Improvement Association of San Francisco, Inc. v. The Regents of the University Of California*, the court concluded "alternatives and mitigation measures have the same function -- diminishing or avoiding adverse environmental effects. The chief goal of CEQA is mitigation or avoidance of environmental harm. To argue that only mitigation measures need be discussed overlooks the fact that alternatives are a type of mitigation. We hold that under CEQA an environmental impact report must include a meaningful discussion of both project alternatives and mitigation measures." In addition, federal courts have clearly indicated that agencies have a duty to "study. . . significant alternatives suggested by other agencies or the public during the comment period" (*DuBois v. United States Department of Agriculture*).

As indicated in Section 15126.6(a) of the State CEQA Guidelines, "[a]n EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decisionmaking and public participation." As defined in Section 15005(a) of the State CEQA Guidelines, the terms "'[m]ust' and 'shall' identifies a mandatory element which all public agencies are required to follow."

As further required under Section 15126.6(b) of the State CEQA Guidelines, "the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly." The State CEQA Guidelines state that "CEQA requires that decisions be informed and balanced. It must not be subverted into an instrument for the oppression and delay of social, economic, or recreational development or advancement" (emphasis added) (14 CCR 15003[j]).

In addition, an alternative which would only partially satisfy the need and purpose of the proposed project must be considered by the an agency if it is "reasonable" (*Natural Resources Defense Council v. Callaway*) and "[a]n alternative may not be disregarded merely because it does not offer a complete solution to the problem" (*Citizens Against Toxic Sprays v. Bergland*) and "a discussion of alternatives that would only partly meet the goals of a project may allow the decisionmaker to conclude that meeting part of the goal with less environmental impact may be worth a tradeoff with a preferred alternative that has greater environmental impact" (*North Buckhead Civic Association v. Skinner*).

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As indicated in the DPEIR: "After careful review of the proposed project and all alternatives, the no project alternative to the proposed project (no construction of the third main track and no construction of the grade separations) is the only alternative evaluated in this document" (p. 1-4). Since the "no project alternative" assumes "no construction of the third main track and no construction of the grade separations," although fulfilling the requirements of Section 15126.6(e) of the State CEQA Guidelines, it fails to provide the project's decisionmakers with any other "build" alternatives, other than the proposed project, will serve to meet, in whole or in part, the project's stated purpose.

With regards to the "no project alternative," the DPEIR concludes "the no project alternative is not considered environmentally superior to the proposed project. Also, because the no project alternative would not achieve the project benefits outlined in Chapter 3 of this PEIR, it is not considered a feasible alternative" (p. 5-6). While the rejection of the "no project alternative" is authorized under the State CEQA Guidelines (e.g., "Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: [i] failure to meet most of the basic project objectives, [ii] infeasibility, or [iii] inability to avoid significant environmental impacts," 14 CCR 15126.6[c]), with the rejection of that option, the project's decisionmakers are left without a choice between the selection of the project and an alternative course of action.

17-40

In structuring the DPEIR in the manner now presented, the Lead Agency has violated Section 15126.6(f) of the State CEQA Guidelines. As required therein, "[t]he range of alternatives required in an EIR is governed by a 'rule of reason' that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice." Since only one "build" alternative (i.e., the proposed project) is provided and since the only other alternative (i.e., "no project alternative") is rejected as infeasible and inconsistent with the project's stated objectives, no "reasoned choice" has been provided.

17-41

Basically, a lead agency cannot comply with CEQA absent consideration and presentation of a reasonable range of alternatives that fulfill, in whole or in part, the project's objectives. Decisionmakers are not necessarily required to do what is in the best interest of the environment but are expected to consider their actions in light of other means of accomplishing that same purpose but at a lesser environmental cost. With respect to the proposed project, the lead agency did not consider any other alternatives other than to implement that project in precisely the manner that it itself suggested.

17-42

Since "[t]he 23.66 km (14.7 mi) rail corridor is owned and operated by BNSF and BNSF has been retained by the Division of Rail to engineer and oversee construction of the proposed improvements along this 23.66 km (14.7) segment of the Main Line Railroad Track" (p. 1-1), it is evident that the prime contractor and beneficiary of the proposed improvements is also the project proponent and the facility operator. Because the "Division of Rail in cooperation with Metrolink and The Burlington Northern Santa Fe Railway Company is proposing to upgrade the capacity of the existing BNSF/Amtrak/Metrolink East-West Main Line Railroad Track" (emphasis added), no clear distinction exists between the Lead Agency and private party that stands to benefit from the project's approval. Pretty cozy relationship and one in which the reality or, at minimum, the specter of a conflict of interest can exist and influence the objectivity of the environmental analysis.

17-43

Further compounding the potential conflict is the fact that the DPEIR was "prepared by Tom Dodson & Associates under contract with BNSF" (p. 2-3). Since the Department is identified as

**Responses to Comment Letter #17 (continued)**

- 17-40 Please see Response to Comment 17-39. The location of BNSF's east-west main line rail corridor has been fixed for approximately 100 years. Accordingly, the proposed Third Main Track and the grade separation sites are fixed in place and the need for the new track and the grade separation facilities cannot be fulfilled at any other location. Since there are no other locations where these facilities can be installed to meet project objectives, it is not possible to transfer this proposed project to another facility or location and reasonably meet the project objectives defined in the Project Description in the DEIR.
- 17-41 Please see Response to Comment 17-39. The location of BNSF's east-west main line rail corridor has been fixed for approximately 100 years. Accordingly, the proposed Third Main Track and the grade separation sites are fixed in place and the need for the new track and the grade separation facilities cannot be fulfilled at any other location. Since there are no other locations where these facilities can be installed to meet project objectives, it is not possible to transfer this proposed project to another facility or location and reasonably meet the project objectives defined in the Project Description in the DEIR.
- 17-42 The Lead Agency for the proposed project is the Department of Transportation Division of Rail, which was given Lead Agency responsibility for this EIR by the other potential lead agencies, including the local cities in which the grade separations are proposed (Pico Rivera, Santa Fe Springs and La Mirada). In addition, the Division of Rail is also the project proponent. BNSF is the engineering environmental contractor under contract to the Division of Rail, to assist the Division of Rail to ready all of the project components for final decision and funding as noted above. As an owner and operator of rail lines throughout the United States and Canada, BNSF is qualified to act as the engineering environmental contractor for the proposed project. In this case, the Division of Rail contracted with BNSF and supporting private engineering and environmental firms, to complete the engineering for the project components so that all of the project components could be considered in a coordinated fashion. The Division of Rail does not have a conflict of interest in discharging its obligations as Lead Agency and in carrying out the CEQA process. CEQA Guidelines Section 15084(d)(3) allows the Lead Agency to accept a Draft Environmental Impact Report prepared by the applicant, a consultant retained by the applicant, or any other person. If the Lead Agency accepts a Draft EIR prepared by the project applicant, consultant retained by the applicant, or any other person, the Lead Agency is required to conduct its own independent review of the document. CEQA Guidelines Section 15084(e). Therefore, the CEQA Guidelines clearly provide that the Lead Agency may accept a Draft Environmental Impact Report that has been subject to review and input by the project applicant or any other third party. This in and of itself does not produce a conflict or prevent the Lead Agency from carrying out its statutory duties. The Department of Transportation and Division of Rail staff have carried out an independent review of the EIR before it was released as a Draft EIR for public review. Please also see Responses to Comments 17-89 and 17-90.
- 17-43 Please see Response to Comment 17-42. Tom Dodson & Associates has prepared many EIRs related to rail projects and meets the Division of Rail's qualifications as a consultant. The Division of Rail's guidelines were fully observed in the implementation of the proposed project. Nothing in the Division of Rail's procedures prohibits preparation of the DEIR in the manner undertaken for the proposed project.

**Third Main Track and Seven Grade Separation Projects**  
**Burlington Northern Santa Fe Railroad Company East-West Main Line Railroad Tracks**  
Draft Environmental Impact Report, SCH No. 2002041111

17-43  
cont. CEQA Lead Agency, the manner in which the document is prepared must conform to the policies and procedures of that agency. As indicated in the Department's "Project Development Procedures Manual" (California Department of Transportation, July 1, 1999): "Caltrans uses consultants for some professional and technical services, such as architectural, landscape architectural, engineering, environmental, land surveying and material testing. Professional service contracts are awarded on the basis of qualifications and negotiated costs, while some of the technical service consultants are evaluated on the basis of qualification and awarded on the basis of the lowest bid from those that meet the minimum qualifications" (Section 8). Absent from the Department's manual are any statements that the project proponent has the authority to select the environmental consultant, who then operates under a fiduciary relationship with the applicant and not the Department.

17-44 Because the DPEIR leads to no other course of action other than to approve the project in precisely the manner proposed by BNSF and because the DPEIR includes no mitigation measures that modify or otherwise alter the proposed project in any material fashion, BNSF can proceed with certainty that the project BNSF designed and is now promoting is precisely the project that will be approved by the agency that retained BNSF "to engineer and oversee construction." As a result, it is evident that "the game was rigged" from the outset so as to foreclose all other options than those now being promoted by the project proponent.

**3.1.2 The Manner In Which a Project Is Described Limits the Range of Alternatives Considered**

As indicated in the DPEIR, "[t]he project evaluated in this Program EIR is the construction of approximately 23.66 (14.7 mi) of new railroad track (third main track) in the BNSF rail corridor from the City of Commerce to the City of Fullerton and the construction of up to seven new grade separations located in the Cities of Pico Rivera, Santa Fe Springs and La Mirada" (p. 5-1). In addition, the project's "[s]pecific objectives include: (A) Installation of the grade separations to substantially enhance safety and traffic flow on surface streets along this segment of the rail corridor by increasing the separation between trains and motor vehicle traffic. (B) Installation of the third main track to enhance efficiency of train movement along this corridor and will ensure passenger train service can operate on a reliable schedule, which is the key aspect of rail passenger service that attracts passenger rail customers" (emphasis added) (p. 3-1).

As specified in CEQA, a project's "objectives" serve a critical function with regards to the formulation of other alternatives. Referencing the State CEQA Guidelines: "An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives" (14 CCR 15126.6[a]) and "[a]mong the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts" (14 CCR 15126.6[c]) (emphasis added).

17-45 As now drafted, the Lead Agency has so narrowly defined the project's objectives that no alternative, other than one that would result in the "installation of grade separations" and the "third track" along "this corridor," could and have been rejected based on the assertion that such alternatives fail to fulfill the project's stated objectives (e.g., "The proposed third main track and

***Responses to Comment Letter #17 (continued)***

- 17-44 BNSF is not the project proponent; rather, the project proponent is the Department of Transportation Division of Rail. The only real alternatives before the Division of Rail with regard to the proposed project are the following three: (1) whether the proposed project components can be built without causing significant adverse impact, (2) whether to reject construction of the proposed improvements, or (3) whether there are any alternatives that are required to reduce potential impacts below a level of significant impact. All of the project components can be implemented without causing significant adverse environmental impacts, with mitigation as required. The project has been identified as resulting in significant long-term benefits to the environment and short-term construction impacts that can be controlled to a level of non-significant adverse impact. Finally, as discussed in Response to Comment 17-39, no alternatives were available or required to reduce impacts to a level of non-significant impact. There was no rigging of the "game" in this process, as each of the above conclusions evolved out of the analysis presented in the DEIR.
- 17-45 The objectives for this project were defined by the Department of Transportation Division of Rail and the cities in which grade separations are proposed, to clearly state the purpose for expending State funds. CEQA does not state how objectives are to be defined and the approach taken by the Division of Rail and the cities is no different than if the proposed project were a simple expansion of an existing two-lane road to a four-lane configuration in a built-out city, or to build a new train station at a specific location. One does not select a totally new alignment for an existing road, due to the inherently greater impacts of siting a new road through the community, and one does not build a new train station or grade separation where there are no tracks. The existing BNSF east-west main rail corridor has been fixed in place within its existing alignment for approximately 100 years. There is no reasonable position that would consider realignment of the 14.7-mile stretch of the BNSF main line between Basta and Hobart, simply to provide a hypothetical alternative for an alternatives analysis. The inherent purpose of such facility improvements is to meet a specific need and such needs or objectives cannot be met by building facilities where no need exists. Please see Response to Comment 17-39.

17-45  
cont. ↑ the grade separation sites are fixed in place and the need for the new track and the grade separation facilities cannot be fulfilled at any other location," p. 5-1).

Under the analogous NEPA, in a 1997 United States Court of Appeals for the Seventh Circuit case, the court noted: "The 'purpose' of a project is a slippery concept, susceptible of no hard-and-fast definition. One obvious way for an agency to slip past the strictures of NEPA is to contrive a purpose so slender as to define competing 'reasonable alternatives' out of consideration (and even out of existence). The federal courts cannot condone an agency's frustration of Congressional will. If the agency constricts the definition of the project's purpose and thereby excludes what truly are reasonable alternatives, the EIS [environmental impact statement] cannot fulfill its role. Nor can the agency satisfy the Act" (Simmons et al. v. United States Army Corps of Engineers et al.).

As indicated in the Department's "Environmental Handbook, Volume I: Guidance for Compliance" (California Department of Transportation, undated) (Lead Agency CEQA Guidelines): "The statement of a project's Purpose and Need will drive the project development and environmental processes and ultimate approval of the project, and it is essential in getting public consent. A good statement of the proposed project's purpose and need should flow out of system planning. As defined therein, "[s]ystem Planning uses a broad context in terms of both time and space. It addresses long-term transportation planning, and it also addresses statewide mobility and intermodal connectivity."

17-46 As a result, in accordance with the Department's own methodology and procedures, the "statement of a project's purpose and need" must represent a broad-based approach that seeks to examine "long-term transportation planning" rather than short-term capital improvement requirements that will become outdated as soon as (if not before) they are completed. For example, there exists substantial evidence that overall improvement requirements along that segment of the "east-west main line" examined in the DPEIR will require four main tracks and not the three tracks now under consideration and that additional improvements will be required both to the north and to the south of the relatively arbitrary project area now under review. Under a broader "system planning" approach, the project would focus on solving a long-term need so that both the short-term and long-term impacts of the ultimate project could be considered in the decision-making process.

### **3.1.3 Other Reasonable Alternatives Not Considered in the DPEIR**

As indicated in Section 15167 of the State CEQA Guidelines: "(a) Where a large capital project will require a number of discretionary approvals from government agencies and one of the approvals will occur more than two years before construction will begin, a staged EIR may be prepared covering the entire project in a general form. The staged EIR shall evaluate the proposal in light of current and contemplated plans and produce an informed estimate of the environmental consequences of the entire project. The aspect of the project before the public agency for approval shall be discussed with a greater degree of specificity. (b) When a staged EIR has been prepared, a supplement to the EIR shall be prepared when a later approval is required for the project, and the information available at the time of the later approval would permit consideration of additional environmental impacts, mitigation measures, or reasonable alternatives to the project."



***Responses to Comment Letter #17 (continued)***

- 17-46 Please see Responses to Comments 17-5, 17-11 and 17-32. The purpose of the proposed project is to enhance the flow of existing rail traffic, not to meet the ultimate configuration of the overall rail system for Southern California and the BNSF east-west main line corridor. Any future improvements to the BNSF east-west main line corridor are too uncertain and speculative to provide for meaningful environmental evaluation at this time. See, *No Oil, Inc. v. City of Los Angeles* (1974), 13 Cal.3d 68. The proposed project does examine long-term transportation planning to the extent reasonable and, as a result, it has been determined that carrying out the proposed project will achieve the objectives of long-term transportation planning in that the flow of existing rail traffic will be enhanced along the 14.7-mile stretch of the BNSF main line between Basta and Hobart, where congestion currently exists. The proposed project is not a system-wide planning project. It is a discrete, specific set of project components. It is unreasonable to expect a proposed project to define its purpose by incorporating infeasible objectives to meet a need which has not been identified by substantial evidence to exist.

As further indicated in the "Discussion" following those regulations: "The staged EIR was developed as a device to deal with the problem of a large development project which would require many years for planning, engineering, and construction but would need a number of approvals from public agencies before the final plans for the project would be available. Where those final plans would not be available, the Lead Agency preparing an EIR for one of the early approvals would have difficulty providing enough information about the project to evaluate the effects of the entire project as would otherwise be required. The device of the staged EIR provides a special relaxation of the requirement for the EIR on a development project to examine the entire project in detail. To make up for this lack of detail with the early approval, the section requires preparation of a supplement with later approvals when additional information becomes available."

17-47 [ Sufficient information exists within the whole of the record to indicate that additional rail line improvements will be required not only along that segment of the BNSF mainline examined in the DPEIR but along other portions of the San Bernardino Subdivision. For example, the LAEDC Study concludes:

In 2010, the BNSF line will see 75 passenger trains and 80 freight trains daily. The two UP lines will split 25 passenger trains and 85 freight trains daily. This means that in less than 10 years, the Alameda Corridor East will have 5-6 tracks' worth of trains. In 2025, the BNSF line will carry 100 passenger trains and 120 freight trains, while the UP lines will share 40 passenger trains and 130 freight trains. This is enough to fill 7 tracks to capacity, daily! Even if the passenger rail plans of Amtrak and Metrolink prove wildly optimistic, the freight train volume alone would be sufficient to require triple tracking the BNSF line from Colton Crossing all the way to Chicago (LAEDC Study, p. 11).

17-48 [ Based on both that CEQA authorization and the projected demand for additional rail facilities and improvements beyond those described in the DPEIR, the Lead Agency should redefine the proposed project in a substantially broader context in order to encompass those improvements required or anticipated in 2010 and 2025. Once so defined, the Lead Agency, working in cooperation with the two Class I railroads, Amtrak, and Metrolink could then formulate a reasonable range of capital improvement, phasing, and operational alternatives that would accommodate those freight and passenger rail needs.

17-49 [ For each of the capital improvements identified in the PDEIR, no alternatives to those facilities are examined therein. As a result, neither the general public nor other public agencies have an opportunity to discuss alternative design solutions and to consider the comparative impacts that might result from the selection of a different design approach. For example, the DPEIR indicates that "[s]everal alternatives were considered for the Pioneer Boulevard Grade Separation, but a final alternative has been identified by the City of Santa Fe Springs and Los Angeles County" (p. 3-11).

Referencing Section 15004(b) of the State CEQA Guidelines: "Choosing the precise time for CEQA compliance involves a balancing of competing factors. EIRs and negative declarations should be prepared as early as feasible in the planning process to enable environmental considerations to influence project program and design and yet late enough to provide meaningful information for environmental assessment." As the Court of Appeals in *Sundstrom v. County of Mendocino* noted: "Environmental problems should be considered at a point in the

***Responses to Comment Letter #17 (continued)***

- 17-47 Please see Responses to Comments 17-5, 17-11, 17-22 and 17-32. The improvements referred to in this comment are too uncertain and speculative to provide for meaningful environmental evaluation at this time. See, *No Oil, Inc. v. City of Los Angeles* (1974), 13 Cal.3d 68.
- 17-48 Please see Responses to Comments 17-5, 17-11, 17-22 and 17-32. The improvements referred to in this comment are too uncertain and speculative to provide for meaningful environmental evaluation at this time. See, *No Oil, Inc. v. City of Los Angeles* (1974), 13 Cal.3d 68.
- 17-49 Contrary to the view expressed in this comment, the Lead Agency is not required to include alternatives for each component of a project within the EIR. CEQA Guidelines Section 15126.6(a) requires an EIR to discuss a reasonable range of alternatives to the proposed project or to the location of the project, if appropriate under the circumstances. An EIR is not required to consider alternatives to a component of a project. See, *Big Rock Mesas Property Owners Association v. Board of Supervisors*, (1977) 73 Cal.App.3rd 218, 277. Therefore, the DEIR for the proposed project is not required to propose and discuss specific alternatives for each component of the proposed project such as each grade separation. As information, when the proposed project was in its initial stage of review, the first evaluation focused on whether it would be feasible to construct an overpass or underpass at each location. Due to the additional area of disturbance and associated property acquisition required for overpasses, the overpass alternative was determined by the engineers, the Department of Transportation Division of Rail and affected cities to be infeasible. Once determined infeasible, the engineers examined several ways of constructing the underpasses at each grade separation to integrate the new road section into the local circulation system and to minimize the need to acquire property. The actual foot print of the underpass grade separations has remained substantially the same since the decision was made to install underpasses and only minor modifications, such as construction techniques to minimize vibration, have been identified since the original decision. Because these design modifications were totally within the foot print of the proposed facility and because only short-term non-significant construction impacts have been identified, no other alternatives to components to the proposed project were identified or required for consideration.

planning process 'where genuine flexibility remains' (citation omitted). A study conducted after approval of a project will inevitably have a diminished influence on decision-making. Even if the study is subject to administrative approval, it is analogous to the sort of post hoc rationalization of action actions that has been repeatedly condemned in decisions construing CEQA."

17-50

Since the project plan were finalized prior to the commencement of the CEQA process, to the extent that environmental factors were even considered, the public was denied the opportunity to participate in that process and to independently review the evaluation criteria used by the Lead Agency to eliminate alternative design solutions prior to narrowing the project to a single development plan.

Again, drawing upon the analogous NEPA, as required under the CEQ Regulations, "[a]gencies shall integrate the NEPA process with other planning at the earliest possible time to insure that planning and decisions reflect environmental values, to avoid delays later in the process, and to head off potential conflicts" (40 CFR 1501.2) and "[a]n agency shall commence preparation of an environmental impact statement as close as possible to the time the agency is developing or is presented with a proposal so that preparation can be completed in time for the final statement to be included in any recommendation or report on the proposal."

The United States Ninth Circuit Court of Appeals recently overturned a district court ruling that had allowed the Makah Indian Tribe to resume whale hunting off the coast of Washington. The court's decision turned on two main NEPA issues: timing and objectivity. The majority found that the involved federal agencies had made an inappropriate commitment to support the Tribe's whaling proposal before completing the NEPA review and that this commitment biased the objectivity of that review. In *Metcalf v. Daley*, the court stated that "this court has interpreted these regulations as requiring agencies to prepare NEPA documents, such as an EA [environmental assessment] or an EIS, 'before any irreversible and irretrievable commitment of resources'. . . The Federal Defendants did not engage the NEPA process 'at the earliest possible time.' Instead, the record makes clear that the Federal Defendants did not even consider the potential environmental effects of the proposed action until long after they had already committed in writing to support the Makah whaling proposal. . . These events demonstrate that the agency did not comply with NEPA's requirements concerning the timing of their environmental analysis, thereby seriously impeding the degree to which their planning and decisions could reflect environmental values."

As further indicated in *Metcalf v. Daley*, "[p]roper timing is one of NEPA's central themes. An assessment must be 'prepared early enough so that it can serve practically as an important contribution to the decisionmaking process and will not be used to rationalize or justify decisions already made'. . . The phrase 'early enough' means 'at the earliest possible time to insure that planning and decisions reflect environmental values.'"

17-51

As a result, since the Lead Agency acknowledges or infers that there exists other design and development plans that could be implemented for some or all of the proposed improvements, the decision to withhold those alternatives from public and agency review prevents any discussion of those options and allows the Lead Agency to make unsupported statements with regards to the plans that have been formulated. For example, with regards to the "Rivera Road over Pioneer Boulevard" grade crossing, the DPEIR asserts that "[t]he advantages of this alternative" include "Less Right-of-Way" (p. 3-12). Since no other alternatives are presented for this grade separation, it is not possible to answer the question "less right-of-way than what?"

***Responses to Comment Letter #17 (continued)***

- 17-50 Please see Response to Comment 17-49. Contrary to the statements made in this comment, the public was invited to attend monthly public meetings regarding the grade separations (two meetings were held each month, one in Pico Rivera and one in Santa Fe Springs, over the past two years). In addition, more than six public hearings were held in the cities of Pico Rivera, Santa Fe Springs, and La Mirada regarding the proposed project and any feasible alternatives. Throughout the course of this process, no other feasible alternatives have been identified. Please see Response to Comment 17-95.
- 17-51 Please see Response to Comment 17-49. The project design contained in the project description represents the minimum property acquisition required to install each of the grade separations and the most environmentally sensitive design.

17-52

In addition, although the project's "objectives" are defined as the "installation" of the proposed third track and grade crossings, in reality, those capital improvements constitute only a single solution to what is more appropriately the project's actual objectives, namely the enhancement of rail corridor efficiency and flow of rail traffic (e.g., "the objective for providing better rail corridor efficiency and flow of rail traffic," p. 3-10). As indicated in the LAEDC Study, alternatives do not need to be confined to those examining only capital improvements. Operational changes, either in isolation of additional facilities or in combination therewith, can and should be considered as a means of accommodating both the current volume and projected increase in freight and passenger rail traffic (e.g., "flexible freight on the UP Alhambra and LA Lines," LAEDC Study, p. 15).

17-53

As indicated in the Department's "Traffic Noise Analysis Protocol" (California Department of Transportation, October 1998) (Caltrans Noise Protocol or Protocol), "noise abatement measures may include, but are not limited to . . . Avoiding the project impact by using design alternatives that result in lessening the noise effect, such as altering horizontal and vertical alignments to avoid a noise impact" (Caltrans Noise Protocol, p. 25).

17-54

Lessons learned in the planning and design of the Alameda and Orangethorpe Corridors are also relevant to the proposed project. One of the main design elements of the Alameda Corridor is a trench in which rail travel travels, allowing street crossings to continue at grade. While initially proposed as a rail improvement and grade-crossing project similar to that described in the DPEIR, based, in part, upon environmental concerns, the Orangethorpe Corridor project was subsequently redesigned as a "railroad lowering project" (i.e., Orangethorpe Avenue Grade Separation and Trade Corridor) and is now under the management of OnTrac, a joint powers authority, headed by the City of Placentia. The 5-mile long Orangethorpe Avenue Grade Separation and Trade Corridor includes eleven grade crossings. In a similar fashion, based on the demonstrated feasibility of those two projects, the Lead Agency needs to examine one or more design alternatives that would emulate the design schemes for those corridors.

### **3.2 FAILURE TO ADEQUATELY CONSIDER CUMULATIVE IMPACTS**

In *People v. County of Kern*, the court touched briefly upon the subject of cumulative impacts in discussing whether or not an EIR prepared for a development should have taken account of other, similar developments in the vicinity. As noted by the court: "The final EIR makes no mention of the combined impact of these projects on the environment. . . We believe the Attorney General is correct when he contends that the final EIR also should consider and comment upon the overall impact of the Rancho El Contento project and the other projects now in progress in Cuddy Valley regardless of their current state of development."

Under the analogous National Environmental Policy Act (42 U.S.C. 4321 et seq.), the federal courts have reached even more specific conclusions regarding the nature of the cumulative impacts discussion requirement. For example, in *Natural Resources Defense Council v. Callaway*, the circuit court held that the United State Navy's EIS on the dumping of dredge spoil at a specific site was legally insufficient because it failed to discuss the possible cumulative effects of other proposed dumping projects, both private and governmental, in the area. In discussing the degree of inquiry necessary to satisfy the mandate of NEPA, the court stated: "[A]n agency may not . . . [treat] a project as an isolated 'single shot' venture in the face of persuasive evidence that it is but one of several substantially similar operations, each of which will have the same polluting effect in the same area. To ignore the prospective cumulative harm

**Responses to Comment Letter #17 (continued)**

- 17-52 Please see Response to Comment 17-49. In addition, operators along the 14.7-miles stretch of the BNSF main line between Basta and Hobart have pursued all feasible operational changes, to relieve congestion including, without limitation, local traffic and variable traffic scheduling scenarios. Unfortunately, congestion along this stretch cannot feasibly be managed through operational changes. In addition, the project proponent, the Department of Transportation Division of Rail, has no authority over the scheduling or management of operations on railroad tracks. Therefore, an operational alternative has no feasible means of being implemented as a result of this DEIR, to enhance the flow of train traffic on the existing two main track systems on the 14.7-mile stretch of the BNSF main line between Basta and Hobart. However, the installation of new track is within the Lead Agency's purview and therefore represents the appropriate objective for the proposed project. Finally, this comment overlooks the safety improvements that will be achieved by the second objective of the proposed project, which is to separate rail and motor vehicle/pedestrian traffic with the grade separations, which can only be achieved by installing the separations.
- 17-53 This comment overlooks the fact that the long-term effect on noise will be non-significant. In that regard, please see Responses to Comments 17-67, 17-68 and 17-69.
- 17-54 The Orangethorpe Corridor proposal has not been engineered, funded or implemented, primarily because it has not been demonstrated to be a feasible plan for improving the 14.7-mile stretch of the BNSF main line between Basta and Hobart. Accordingly, any Orangethorpe Corridor improvements are too uncertain and speculative to allow for meaningful environmental evaluation at this time. Similarly, undergrounding the proposed project would be infeasible for several reasons: (1) to underground the three tracks would require taking this 14.7-mile stretch of the BNSF main line between Basta and Hobart out of service for major periods, or result in major property acquisition along the route to build a 14.7-mile long shoo-fly; and (2) the Third Main Track could not be undergrounded by itself, without also undergrounding all three tracks for the entire stretch. Undergrounding all three tracks would require the removal of about 8.6 million cubic yards of dirt (150 feet wide, by 30 feet deep, by 14.7 miles in length). With this much dirt to be removed, about 575,000 truck trips would be required, without even considering that there is no site identified in the region that could accept such a large quantity of dirt. By comparison, the proposed project can be installed without causing significant delays in train traffic and without addressing the issue of excavation and placement of excess dirt. Accordingly, even without detailed evaluation, undergrounding of the proposed project is not feasible and the Department of Transportation Division of Rail has determined that undergrounding is not feasible.

under such circumstances could be to risk ecological disaster. . .[T]he [CEQ] Guidelines for preparation of impact statements emphasize that consideration should be given not only to the action that is the subject of the EIS but also to 'related Federal actions and projects in the area, and further actions contemplated. . .and direct that the 'interrelationships and cumulative environmental impacts of the proposed action and other related Federal projects shall be presented in the statement.'"

In *Akers v. Resor* the federal district court, in holding the EIS prepared for an United States Army Corps of Engineers' project to be inadequate for failure to discuss cumulative impacts, stated: "The full environmental impact of a proposed federal action cannot be gauged in a vacuum. The standards of practicability and reasonableness by which the adequacy of an EIS must be measured surely dictate that the cumulative impacts of one project with other projects need not be set forth in the same detail as the direct impacts of that project. The same standards of practicability and reasonableness dictate that such cumulative impacts must not be ignored." The court went on to hold the following three elements necessary to an adequate discussion of cumulative environmental impacts: "(1) a list of projects producing related or cumulative impacts; (2) a brief but understandable summary of the expected environmental impacts to be produced by those projects with specific reference to additional impact information where such information is available; and (3) a reasonable analysis of the combined or cumulative impacts of all the projects."

As indicated in the DPEIR: "CEQA Guidelines provide two alternative methods for making cumulative impact forecasts: (1) a list of past, present and reasonably anticipated projects in the project area, or (2) the broad growth impact forecast contained in general or regional plans" (p. 6-3). Despite that statement, the Lead Agency then fails to proceed along either of those two paths. As indicated in the DPEIR: "The Department and BNSF have reviewed applications within the general project area and determined that no other related projects are being considered for entitlement or development within the immediate vicinity of the proposed project" (p. 3-23). As such, apparently the proposed project does, in fact, exist in a vacuum.

17-55 Similarly, despite the existence of SCAG's "2001 Regional Transportation Plan – Community Link 21," SCAG's "Goods Movement Program White Paper – A Survey of Regional Initiatives and a Discussion of Program Objectives," the LAEDC's "Final Los Angeles – Inland Empire Railroad Main Line Advanced Planning Study," the Department's "California State Rail Plan: 2001-02 to 2010-11," and Amtrak's "California Passenger Rail System 20-Year Improvement Plan," the DPEIR fails to identify and discuss possible cumulative impacts based on the growth projections and other parameters outlined in those "regional plans." The failure to address those plans appears to be a conscious attempt by the document's authors to avoid the disclosure that the proposed project is part of a larger undertaking and that adopted growth forecasts indicate the need for additional improvements beyond those now identified in the DPEIR.

This failure is made even more discerning by the declaration that "[t]he proposed project is included in a regional transportation plan" (p. 6-1). That plan, however, is never addressed in the DPEIR nor is there a reference that significant capacity shortfalls are predicted along the BNSF mainline for both 2010 and 2025.

17-56 In lieu of either an analysis of "past, present and reasonably anticipated projects in the project area" and/or the "broad growth impact forecast contained in general or regional plans," the Lead Agency, without any accompanying technical support or analyses, concludes that "rail and



**Responses to Comment Letter #17 (continued)**

- 17-55 Please see Responses to Comments 17-5, 17-11 and 17-32. CEQA Guidelines Section 15130 requires an EIR to discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable. Section 15130(b)(1)(a) states that the Lead Agency may conduct its analysis of cumulative projects by reference to a list of past, present and probable future projects producing related or cumulative impacts. Section 15130(b)(1)(B)(2) defines "probable future projects" as those projects requiring agency approval for an application which has been received at the time the Notice of Preparation is released, unless abandoned by the applicant. As indicated in the DEIR, the Department of Transportation Division of Rail reviewed applications within the general area of the proposed project and determined that no other related projects were being considered for entitlement or development within a relationship to the proposed project, which could produce related or cumulative impacts.

Growth projections made by documents such as those referenced in this comment, do not represent "reasonably anticipated projects" because they merely serve as an ultimate system build out concept envisioned by many agencies and are too uncertain or speculative to allow for meaningful environmental evaluation. See, *No Oil, Inc. v. City of Los Angeles* (1974), 13 Cal.3d 68. Thus, when a City constructs improvements on a regional roadway, such as Telegraph Road, it is not required to evaluate the ultimate build out of the roadway according to the General Plan because the ultimate build out project is not funded or engineered for construction and is too uncertain and speculative to allow meaningful environmental evaluation.

- 17-56 Please see Response to Comment 17-55. No data has been provided justifying expansion of the cumulative impacts analysis beyond the analysis contained in the DEIR. In addition, this comment takes out of context the statement that, "rail and surface transportation system improvements such as the improvements very rarely contributed to cumulative effects, other than for localized issues, such as noise or traffic flow" (page 6-3). By their very nature, surface transportation system improvements, such as the improvements which are components of the proposed project, reduce environmental impacts.

17-56  
cont. surface transportation system improvements very rarely contribute to cumulative effects, other than for localized issues, such as noise or traffic flow" (p. 6-3).

### 3.3 FAILURE TO ADEQUATELY CONSIDER INDIRECT AND SECONDARY IMPACTS

As defined in Section 15358 of the State CEQA Guidelines: "'Effects' and 'impacts' as used in these [State CEQA] Guidelines are synonymous. (a) Effects include: (1) Direct or primary effects which are caused by the project and occur at the same time and place. (2) Indirect or secondary effects which are caused by the project and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect or secondary effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air and water and other natural systems, including ecosystems."

As further indicated in Section 15064(d)(2) of the State CEQA Guidelines: "An indirect physical change in the environment is a physical change in the environment which is not immediately related to the project, but which is caused indirectly by the project. If a direct physical change in the environment in turn causes another change in the environment, then the other change is an indirect physical change in the environment. For example, the construction of a new sewage treatment plant may facilitate population growth in the service area due to the increase in sewage treatment capacity and may lead to an increase in air pollution" (emphasis added).

17-57 As DPEIR acknowledges that there exist "significant constraints to train movement which presently exists on the double track segment between Hobart and Basta" (p. 3-3). Notwithstanding that declaration, the Lead Agency repeatedly asserts that "[i]t is not anticipated that the installation of the third mainline track will cause any change in the number of train operations within the corridor" (p. 3-2). In that statement, the Lead Agency seeks to ignore the fact that the installation of a third main line will result in the elimination or partial elimination of those existing "significant constraints" that now limits the volume of freight and passenger rail travel that can utilize the affected track segment.

17-58 In direct contraction to the above statement, the Lead Agency indicates that "[b]y installing a new track, the existing rail traffic will flow more efficiently and the potential addition of more trains in the future in response to regional commercial demand can occur with fewer train traffic flow constraints" (emphasis added) (p. 3-9). As such, the Lead Agency has not even presented a consistent approach in the manner in which the project is described; however, from that statement, it is evident that project will serve to promote additional rail traffic along that segment of the BNSF mainline examined in the DPEIR.

The State Rail Plan notes that the two Class I railroads (i.e., BNSF, UP) "are facing increasing traffic levels system-wide. . . both railroads noted capacity improvements were needed between San Bernardino and Los Angeles along State Route 91, Interstate 5 and Interstate 10 corridors to accommodate additional commuter rail service" (emphasis added) (State Rail Plan, p. 117). In addition, the "Statewide Rail Transportation Assessment" (California Department of Transportation, September 2002) (Statewide Assessment) stated: "A survey of the freight railroads conducted as part of this assessment noted that increase in delays to rail shipments in urban areas was directly related to shared use of main lines by commuter and intercity passenger operations which do not have sufficient capacity to operate efficiently. The survey identified the following areas where there are high levels of freight and passenger rail

***Responses to Comment Letter #17 (continued)***

- 17-57 The DEIR acknowledges that future train operations may increase in response to general economic conditions. However, because the proposed project is being implemented in order to enhance the flow of rail traffic on the 14.7-mile stretch of the BNSF main line between Basta and Hobart, the DEIR also recognizes that the proposed project does not contribute to such increases, either directly or indirectly. Future operational forecasts are determined by future economic conditions which may or may not occur. The number of trains on the BNSF main line corridor will occur regardless of whether the proposed project is implemented. If constraints become greater under a no project condition, BNSF operations and passenger train operations will become more delayed or freight and passengers will use available non-rail alternatives (trucks, cars and buses) instead of the trains. The proposed project has been properly defined to meet an existing problem. Focus on future conditions would be speculative since such conditions are independent of the proposed project.
- 17-58 Please see Response to Comment 17-57. As stated in Response to Comment 17-57, the number of trains on the BNSF main line corridor will occur regardless of whether the proposed project is implemented.

congestion; parallel highways are noted: BNSF [1] Los Angeles to Fullerton (I-5). [2] Fullerton to San Bernardino (SR-91). [3] Modesto to Stockton (SR-99)" (Statewide Assessment, p. 30).

Referencing the LAEDC Study: "With a maximum capacity of 50 trains per day per line, both BNSF and UP will have track capacity shortfalls on certain line segments by 2010, barring any major improvements" (LAEDC Study, p. 13). "Thus, without additional tracks and other improvements, the forecast freight and passenger train levels will result in a total breakdown of the rail network through the Alameda Corridor East by 2010" (LAEDC Study, p. 15).

17-59 As a result, notwithstanding declarations to the contrary, the larger administrative record, which includes documents other than the DPEIR, demonstrates that the project addressed in the DPEIR is proposed in response to additional congestion along the affected rail segment and that the identified improvements are proposed in order to increase operational capacity along that segment.

As indicated in "Using Simulation Modeling to Assess Rail Track Infrastructure in Densely Trafficked Metropolitan Areas": "There are generally three strategies used in the alternatives to increase the capacity of the rail network. [1] Expand the tracks, e.g. expand the current single track part to double track, and double track part to triple track etc. [2] Grade separation at major crossings. [3] Change the freight trains' routes." The proposed project specifically includes two of these three capacity-building strategies.

17-60 To the extent that freight and passenger rail traffic were to increase, either as a direct or indirect consequence of the proposed project, it is incumbent on the Lead Agency to address the future conditions that the project may produce or otherwise accommodate. By repeatedly asserting that "[t]here is not proposed increase in the number of daily freight train movements associated with this project" (p. 4.2-13) ignores the operational plans and needs of those freight and passenger rail providers that now utilize the BNSF east-west mainline. In response to market demands, it is evident that BNSF plans to increase the volume of units transported and, therefore, the number of trains needed to transport those shipments along BNSF's mainline.

17-61 While, arguably, the project itself may not increase the "number of daily freight train movements," that increase is coming nonetheless. The mere fact that the project is being undertaken serves to acknowledge that reality. That reality, however, never translates into an evaluation of the project's indirect impacts.

### **3.4 EVIDENCE OF PROJECT FRAGMENTATION**

Referencing Section 15165 of the State CEQA Guidelines: "Where individual projects are, or a phased project is, to be undertaken and where the total undertaking comprises a project with significant environmental effect, the Lead Agency shall prepare a single program EIR for the ultimate project as described in Section 15168. Where an individual project is a necessary precedent for action on a larger project, or commits the Lead Agency to a larger project, with significant environmental effect, an EIR must address itself to the scope of the larger project. Where one project is one of several similar projects of a public agency, but is not deemed a part of a larger undertaking or a larger project, the agency may prepare one EIR for all projects, or one for each project, but shall in either case comment upon the cumulative effect" (emphasis added). As further indicated in the "discussion" following that section, as prepared by OPR, "[t]his section follows the principle that the EIR on a project must show the big picture of what is

***Responses to Comment Letter #17 (continued)***

- 17-59 Please see Response to Comment 17-57. As stated in Response to Comment 17-57, the number of trains on the BNSF main line corridor will occur regardless of whether the proposed project is implemented.
- 17-60 Please see Response to Comment 17-57. As stated in Response to Comment 17-57, the number of trains on the BNSF main line corridor will occur regardless of whether the proposed project is implemented.
- 17-61 Please see Response to Comment 17-57. As stated in Response to Comment 17-57, the number of trains on the BNSF main line corridor will occur regardless of whether the proposed project is implemented.

involved. If the approval of one particular activity could be expected to lead to many other activities being approved in the same general area, the EIR should examine the expected effects of the ultimate environmental changes."

17-62

CEQA prohibits public agencies from adopting a "piecemeal" approach to their environmental review by "chopping a large project into many little ones--each with a minimal potential impact on the environment--which cumulatively may have disastrous consequences" (Bozung v. Local Agency Formation Commission). Based on the above information, it is evident that the Lead Agency has: (1) sought to establish a project description that fails to accurately and adequately encompass all known rail line improvements that are planned, proposed, or reasonably foreseeable by BNSF and located along the San Bernardino Subdivision; and (2) failed to fully evaluate all past, present, and reasonably foreseeable probably future rail line activities that, in combination with the project, could produce cumulatively significant environmental effects.

For purposes of impact assessment, the Lead Agency is required to define the project as broadly as possible in order to ensure a complete analysis of the impacts that may result from the future expansion or continuation of operations of the initial aspect or phases of the project. Such impacts must be assessed when the "future expansion or other action" is a reasonably foreseeable consequence of the project and where the future expansion or later action will likely change the scope or nature of the initial project or its environmental consequences (Laurel Heights Improvement Association v. Regents of the University of California).

With regards to a lead agency's attempts to examine only a component of a larger project in a single EIR, in Christward Ministry v. Superior Court, the court stated that to allow the approval of an isolated component of a larger project "to stand would be to sanction piecemeal environmental review, allowing one aspect of a project to be approved before the environmental consequences of the larger project are reviewed." As further indicated in Laurel Heights Improvement Assn. v. Regents of University of California:

We hold that an EIR must include any analysis of the environmental effects of future expansion or other action if: (1) it is a reasonably foreseeable consequence of the initial project; and (2) the future expansion or action will be significant in that it will likely change the scope or nature of the initial project or its environmental effects. . . This standard is consistent with the principle that "environmental considerations do not become submerged by chopping a large project into many little ones--each with a minimal potential impact on the environment--which cumulatively may have disastrous consequences."

Under NEPA, agencies have a duty to provide the public with comprehensive information regarding environmental consequences of a proposed action and to do so in a readily understandable manner (Oregon Environmental Council v. Kunzman). With regards to the project, the resulting "truncated project concept" produces a "fallacy of division" (San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus) that has precluded important information and analyses from being adequately addressed in DPEIR.

17-63

As indicated in Section 1.0 (Introduction) and Section 2.0 (Background Information Absent from the DPEIR) herein, other rail improvement projects which should logically be part of a single environmental analysis include, but may not be limited to, the following:

**Responses to Comment Letter #17 (continued)**

- 17-62 Please see Responses to Comments 17-5, 17-11 and 17-32. The project description is properly limited to the improvements currently proposed for development and reflected in the project description in the EIR. All other improvements referred to by the commentator are general ideas or concepts and are too uncertain and speculative to allow for meaningful environmental evaluation. See, *No Oil, Inc. v. City of Los Angeles* (1974), 13 Cal.3d 68.
- 17-63 Please see Responses to Comments 17-5, 17-11, 17-32 and 17-62. Specifically:
- (1) Any concept of a fourth main track is a general idea or concept and is too uncertain and speculative to allow for meaningful environmental evaluation.
  - (2) Any concept of a new ICTF at Hobart Yard is a general idea or concept and is too uncertain and speculative to allow for meaningful environmental evaluation.
  - (3) Any concept of a dedicated interchange between Hobart Yard and the I-710 Freeway is a general idea or concept and is too uncertain and speculative to allow for meaningful environmental evaluation.
  - (4) Any concept of an Orangethorpe Corridor and an Orange-Olive Corridor is a general idea or concept and is too uncertain and speculative to allow for meaningful environmental evaluation.
  - (5) Any concept of three main tracks between Atwood-Colton, four main tracks between Hobart-Fullerton, a flying junction at Riverside or a grade separation of the Colton crossing are general ideas or concepts and are too uncertain and speculative to allow for meaningful environmental evaluation.
  - (6) The only grade separations being considered are the seven incorporated in the proposed project. Any concept regarding other grade separations are general ideas or concepts and are is too uncertain and speculative to allow for meaningful environmental evaluation.
  - (7) The concepts referenced in Comment 17-63(7) are general ideas or concepts and are too uncertain and speculative to allow for meaningful environmental evaluation.
  - (8) Please see Response to Comment 17-28. As set forth in Response to Comment 17-28, the concept of run through tracks at Union Station is a general idea or concept and is too uncertain and speculative to allow for meaningful environmental evaluation.
  - (9) The referenced intercity improvements to the Pacific Surfliner Rail Corridor identify projects more than 70 miles distant from the proposed project and totally unrelated to the proposed project. Thus, these projects have no relationship to the proposed project in either time or place. Their implementation has no potential to add cumulatively to potential impacts from the proposed project.
  - (10) The concept of a fifth lead track at Union Station is a general idea or concept and is too uncertain and speculative to allow for meaningful environmental evaluation.
  - (11) The only grade separations being considered are the seven incorporated in the proposed project. Any other grade separations are general ideas or concepts and are too uncertain and speculative to allow for meaningful environmental evaluation.

**Third Main Track and Seven Grade Separation Projects**  
**Burlington Northern Santa Fe Railroad Company East-West Main Line Railroad Tracks**  
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17-63  
Cont.

- (1) "BNSF to have a four track line from LA to Fullerton and three tracks thence to San Bernardino. Complementing these track capacity increases would be improvements to the signaling system as well as strategically placed crossovers, adequate drill tracks, and other track improvements to reduce interference between different classes of trains" (White Paper, p. 30);
- (2) "BNSF would prefer to use Hobart Yard to load domestic trailers and containers at that downtown facility. Hence they would like a new ICTF of their own, perhaps at the old Watson Yard site" (White Paper, pp. 33-34);
- (3) "[B]uilding an interchange off Interstate 710 to our Hobart Intermodal center" (Matt Rose, BNSF CEO);
- (4) Concurrent implementation of both the Orangethorpe and Orange-Olive corridors (RTP, p. 93); (5) "15 grade crossings extending about seven miles across northern Orange County" (RTP, p. 95);
- (5) By 2010, "3 main tracks, Atwood-Colton" and by 2025, "4 main tracks, Hobart-Fullerton; 4 main tracks, Atwood-Colton; 3 main tracks, Atwood-Riverside; Flying Junction at Riverside; Grade separation of Colton Crossing" (LAEDC Study, p. 17);
- (6) "[B]uild grade separations on Burlington Northern-Santa Fe line, Los Angeles County line through Santa Ana Canyon in Orange County" (Section 14556.40[a], CGC);
- (7) "BNSF RAILWAY LINE (RAYMOND TO PLACENTIA)" and "BNSF RWY LINE (PLACENTIA TO IMPERIAL HIGHWAY)" (RTIP);
- (8) "[R]un-through tracks through Los Angeles Union Station" (TCRP);
- (9) Intercity rail improvements on the Pacific Surfliner Rail Corridor (TCRP);
- (10) "Los Angeles Union Station Fifth Lead Track" (IRCP); and
- (11) Orangethorpe Avenue Grade Separation and Trade Corridor (Ontrac).

17-64

Since the DPEIR has failed to consider any of the above referenced activities and bases its analysis on a 2005 horizon year (p. 4.8-10), despite no evidence to suggest that the proposed improvements will be constructed within that time period, it is disingenuous for the Lead Agency to seek to now assert that "[t]his document utilizes conservative (worst case) assumptions in making impact forecasts" (p. 4.1-2). In fact, the opposite appears true. In preparing the DPEIR, the Lead Agency has sought to define the project in such a narrow scope as to artificially limit the range and magnitude of the potential impacts that are likely to result from the project's implementation (e.g., "The project is inherently self-mitigating," p. 4.2-17).

17-65

As an example, although the DPEIR indicates that all construction activities associated with the 14.7-mile railroad segment and seven grade crossings may "occur simultaneously" (p. 4.2-14), in order to ensure that construction-term air quality impacts remain below a level of significance, the air quality analysis is based on the assumption that "[t]he daily disturbance acreage for the combined multiple phases of this project" is estimated to be "2.43 hectares (6.0 acres)" (p. 4.2-14). Since there are no mitigation measures or conditions of approval limiting the total area of disturbance to only 6.0 acres, the selection of that figure is solely intended to minimize both the disclosure and mitigation of construction-related impacts (e.g., "Construction activity air emissions are below the de minimis threshold for establishing project conformity with Section 176(c) of the federal Clean Air Act Amendments of 1990," p. 4.2-17).

17-66

In addition, although the project is proposed within the jurisdiction of two counties (i.e., Los Angeles and Orange Counties) and seven cities (i.e., Commerce, Fullerton, La Mirada, Montebello, Norwalk, Pico, Rivera, Santa Fe Springs), with regards to the threshold of significance criteria used to determine traffic impacts, the Lead Agency has ignored the



**Responses to Comment Letter #17 (continued)**

- 17-64 Please see Responses to Comments 17-5, 17-11 and 17-32. The Lead Agency has the right to define the project and, having defined the project, must evaluate the environmental impacts caused by the project. To say that the Lead Agency has artificially limited the range and magnitude of the potential impacts that are likely to result from the project's implementation would take the exercise of legitimate discretion away from Lead Agencies and substitute the discretion of other parties who are not involved in the process.
- 17-65 This comment contains a selective quote from page 4.2-14, which is inaccurately presented. The issue addressed on page 4.2-14 is whether several construction activities may be occurring simultaneously. What this means is that construction, which could include grading, track laying or other activities, could be going on for an individual project component at the same time. It does not mean, for example, that all grading and all track laying for the entire project would be going on at the same time. The more detailed description on page 10 of Appendix 8.3 clearly states that "Table 4 is worst-case composite of simultaneous maximum construction emissions from several simultaneous project phases."
- 17-66 CEQA Guidelines Section 15064(b) allows Lead Agencies to determine thresholds of significance for use in determining the significance of environmental affects. A threshold of significance is the identifiable quantitative, qualitative, or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant. The Lead Agency has discretion to develop thresholds of significance as long as a reasonable basis exists for using the thresholds. The Lead Agency considered the totality of circumstances as well as input from the public and from the counties of Los Angeles and Orange and the cities of Commerce, Fullerton, La Mirada, Montebello, Norwalk, Pico Rivera and Santa Fe Springs, in concluding that LOS E is a proper threshold of significance for traffic related impacts. Based on the entirety of the record, all thresholds are considered reasonable and in conformance with Sections 15064 and 15064.7 of the CEQA Guidelines.

17-66  
cont. ↑ individual criterion established by each of those agencies and elected to formulate its own threshold standard bearing no relationship to any agency planning document of either county's Congestion Management Program (CMP). For the sole purpose of minimizing disclosure of the likely presence of significant project-related traffic impacts, the Lead Agency states that, "[f]or the purpose of this analysis, the circulation system performance objective is the provision and maintenance of LOS 'E' operation" (p. 4.8-9). None of the affected agencies in whose jurisdiction the project is proposed utilize that standard.

17-67 With regards to noise, the DPEIR states that "[c]onstruction noise levels affecting sensitive receptors may exceed the significance threshold during the day" (p. 4.9-13). Rather than deriving a conclusion that construction-term impacts would be significant, the Lead Agency seeks to discount its own findings by stating that "eliminating this source of noise at night can reduce these short-term impacts to a non-significant level" (p. 4.9-13). With regards to the Lead Agency's own self-imposed significance criteria, no separate daytime and nighttime standards have been formulated and no time limits placed on noise exposure as a precursor to a determination that the resulting impact will be significant.

17-68 Since construction is prohibited under local regulations during evening hours and since the Lead Agency previously stated that compliance with existing regulations do not constitute adequate mitigation (i.e., "Measures incorporated into rules and regulations become mandatory requirements and they no longer need to be identified as additional mitigation," p. 4.1-2), the requirement that no construction occur at night (i.e., "Construction shall be limited to the hours of 7 a.m. to 7 p.m. on Monday through Friday and between 9 a.m. and 6 p.m. on Saturday," p. 4.9-18), the mitigation that is proposed is merely illusory and will not effectively reduce an otherwise significant impact to below a level of significance.

17-69 In fact, many of the mitigation measures presented as recommendations in the DPEIR are of unknown efficacy. As a result, there exists no reasonable assurance that any of the mitigation measures identified in the DPEIR will, in fact, produce their desired results (e.g., no performance standards associated with the recommended mitigation measures and no post-project evaluation identified). As a result, many of the measures will not prove effective and are offered merely for the consumption of an unsuspecting public.

### 3.5 PRESENTATION OF AN INCOMPLETE AND INCONSISTENT PROJECT DESCRIPTION

The Lead Agency asserts that the "Department is working from a core concept that the installation and construction activities within the rail corridor are so interrelated that they merit consideration under a PEIR. The activities are being considered within one environmental document because the Department has concluded that they are being proposed for implementation within the same geographic area, BNSF's east-west main line rail corridor; they are interrelated as a logical part in the chain of contemplated action by the Department and other agencies; and they are essentially part of the overall program (one large project) being implemented by BNSF and the Department to fulfill a responsibility to improve intercity passenger rail service" (emphasis added) (p. 2-2).

17-70 ↓ Despite that declaration, the Lead Agency then seeks to: (1) define the "east-west main line rail corridor" as only a 14.7-mile segment of that corridor; (2) ignore all other planned, proposed, pending, and/or reasonably foreseeable probable future "activities within the rail corridor"; (3)

**Responses to Comment Letter #17 (continued)**

- 17-67 This comment inaccurately characterizes the DEIR. Construction activities are limited to daylight hours (see mitigation measure 4.9-1). In addition, the significance thresholds are identified in the document. Local thresholds are for 24-hour noise descriptors, Ldn and CNEL, and the noise evaluation fully considers impacts based on those local thresholds. The data clearly indicates that construction noise will not exceed those 24-hour thresholds. Regarding single noise events, the whole corridor is exposed to noise levels that rise to 90+ decibels for short durations, from trains and trucks. The restriction of construction activities to daytime hours ensures that the thresholds will not be exceeded. However, the mitigation takes a further step by creating a noise/vibration complaint program that can respond to specific instances where an individual, a residence or a company can notify the contractor and obtain relief by reducing noise/vibration at the affected location. This mitigation measure ensures that noise impacts that affect individual sensitive receptors are controlled to a level consistent with each jurisdiction's adopted noise standards.
- 17-68 Not all jurisdictions have noise ordinances which limit construction to daylight hours. Accordingly, mitigation measure 4.9-1 is appropriate. More importantly, it is not just this measure that is designed to control construction noise impacts. Numerous other mitigation measures are required which reduce impacts from noise and vibration to a less than significant level (i.e., mitigation measures 4.9-2 through 4.9-10).
- 17-69 Please see Responses to Comments 17-67 and 17-68. Mitigation measure 4.9-1 eliminates all construction activity sound generation for a 12-hour period out of 24 hours and this occurs during the most noise sensitive part of the day. Other mitigation measures require that: (1) noise from individual pieces of equipment will be minimized by requiring the lowest level of noise from construction equipment available at the time of construction; (2) all equipment will be properly muffled; (3) the minimum amount of equipment will be utilized; (4) individual sensitive noise receptors will have adverse noise further reduced to an acceptable level for that receptor; and (5) employees or sensitive noise receptors near construction activities will be specifically protected from harmful noise levels. These are all specific performance requirements that will be imposed on the contractors through the mitigation monitoring and reporting program (MMRP). In that regard, please see Response to Comment 17-106. A copy of the MMRP is provided as Attachment 4 to this document.
- 17-70 Please see Responses to Comments 17-5, 17-11, 17-23, 17-32 and 17-62. As noted in the previous comments, no additional projects have been identified which are defined enough for consideration in the DEIR and the other projects mentioned in this comment are too uncertain and speculative to allow for meaningful environmental evaluation. Therefore, the DEIR properly limited its analysis of environmental impacts to the project as defined in the DEIR.

17-70  
cont.

ignore the existence of the Department's own planning and environmental review efforts that are now underway (e.g., "Proposed Improvements to the Rail Corridor Extending from Los Angeles to San Diego via Orange County"); and (4) examine only the first incremental phase of the "one large project" (e.g., three tracks rather than four) that has been determined to be necessary to fulfill the "responsibility to improve intercity passenger rail service."

Referencing *County of Inyo v. City of Los Angeles*, "an accurate, stable and finite project description is the sine qua non of an informative and legally sufficient EIR. . . A curtailed or distorted project description may stultify the objectives of the reporting process. Only through an accurate view of the project may affected outsiders and public decision-makers balance the proposal's benefit against its environmental cost, consider mitigation measures, assess the advantage of terminating the proposal and weigh other alternatives in the balance." As a result of the lead agency's failure to provide a consistent project description, the court further ruled that "[t]he incessant shifts among different project descriptions. . . vitiate[s] the City's EIR process as a vehicle for intelligent public participation."

17-71

Although the DPEIR states that the proposed project includes "[t]he addition of a 23.66 km (14.7 mi) segment of a third track and improvement of 5.47 km (3.4 mi) of existing track" (p. 4.2-17), no reference to the "improvement of 5.47 km (3.4 mi) of existing track" is presented either in the "Initial Study for the Third Main Track and Grade Separation Project on the Burlington Northern Santa Fe Railway Company East-West Main Line Railroad Track" (Initial Study), in the "Notice of Preparation/Scoping Announcement" (NOP), in the "Notice of Completion" (NOC), nor in the "Project Description." As such, the public is presented with both an incomplete and inconsistent project description against which project-related and cumulative environmental impacts must be evaluated.

17-72

In addition, citing Section 15146(a) of the State CEQA Guidelines: "An EIR on a construction project will necessarily be more detailed in the specific effects of the project than will be an EIR on the adoption of a local general plan or comprehensive zoning ordinance because the effects of the construction can be predicted with greater accuracy." Since "[t]he Valley View grade separation is the only fully funded grade separation project at this time" (pp. 3-16 and 17), at minimum, that portion of the project has elevated itself to the status of a "construction project" even, in direct contradiction to its previous statement, the DPEIR later indicated that "[a]lthough some funding has been identified for the construction of the Valley View grade separation project, specific funding is still being sought to fully fund Valley View" (p. 3-23).

17-73

As a construction project, a more detailed project description of the proposed Valley View grade crossing is required. For example, absent from the DPEIR is any discussion of what, if any, off-road improvements or other actions will be required to minimize impacts to proximal residents and businesses. The project description fails to describe such things as how points of ingress and egress to adjoining properties will be altered, how vehicular and non-vehicular access to those properties will be maintained, whether any off-street parking will be impacted and, if so, to what extent, whether any privately-owned facilities and landscaping will be removed or otherwise impacted, whether affected businesses will need to change or otherwise modify existing operations, how those changes or other modifications would affect those businesses and whether those actions could be feasibility implemented, the precise location of any "partial" or "full takes" that will be required, and how such reduction in real and/or personnel property would impact the continued viability of those affected properties and businesses.

**Responses to Comment Letter #17 (continued)**

- 17-71 The reference to improvements to 5.47 km of existing track is in error and that reference will be removed from the text of the final EIR.
- 17-72 The reference to full funding for Valley View is in error. Valley View was fully funded when planning began for the proposed project. However, due to current State budget problems, full funding is no longer available. Valley View remains one of the highest priority grade separation projects in the State due to accidents which occur at this location; but, additional funds are being sought to replace those that have been redirected as a result of State budget problems. References to full funding for Valley View will be removed from the text of the final EIR.
- 17-73 Actually most of the questions raised in this comment are addressed on Figures 3-9a through 3-9d. For Valley View after construction, the access and operations will be the same as the existing condition, except that the railroad grade crossing will be converted from an at grade crossing to a grade separated crossing. The existing landscaping on Valley View where the roadway grade is to be lowered (approximately 400 feet each way from the underpass) will be removed with the construction and re-landscaped after the new construction is complete.

During construction, access will be maintained to all businesses and business operations should not change. Short-term impacts during construction include the following:

- a. Shopping center in the northwest quadrant of Valley View and Stage: Approximately 10 parking spaces will be temporarily lost during construction to allow the construction of the detour for Valley View. Minor parking lot-entrance modifications will be made to fit the proposed underpass.
- b. Industrial Park in the southwest quadrant of Valley View and the BNSF Railroad: Approximately 20 parking spaces will be displaced during construction and the primary access to the industries will be from the west. Minor parking lot/entrance adjustment will be made to fit the proposed underpass.
- c. Industries to the southeast quadrant of Valley View and the BNSF Railroad: The north parking lot adjacent to Valley View and BNSF will be reconstructed in the final phase of construction to fit the proposed underpass. To minimize the impacts during construction, a rear access to this north parking lot should be negotiated with the right-of-way acquisition. On Valley View, the existing retaining walls will be removed with a new retaining wall placed in the same location to accommodate the underpass grade. The primary access on the south end of the underpass will be maintained throughout construction.
- d. the Residential in the northeast quadrant of Valley View and Stage Road: The rear lots of several properties will be temporarily impacted by construction of the retaining wall on Stage Road. One rear building will need to be removed/moved/modified during construction.

### 3.6 AGENCY CANNOT HIDE BEHIND SELECTION OF PROGRAM-LEVEL ANALYSIS AS ITS RATIONALE FOR FAILING TO PRESENT A PROJECT-LEVEL ANALYSIS

17-74 The Lead Agency appears correct in asserting that the appropriate manner of CEQA compliance is through the preparation of a "program Environmental Impact Report" (NOP); however, the "program" which is the subject of that EIR is the overall improvement plans (2025) for the entire BNSF "corridor" and not merely for some smaller, incremental component thereof. Since the activity examined in the DPEIR is already a multi-county (i.e., Los Angeles and Orange Counties), jurisdictional limit lines along cannot be used a rationale for "looking at the bigger picture" (e.g., "CEQA was intended to be interpreted in such a manner as to afford the fullest possible protection to the environment," 14 CCR 15003[f]).

17-75 Since the Lead Agency asserts that the proposed project is consistent with the RTP, the PEIR should rightfully focus on the project proponent's rail component as outlined in the RTP. The DPEIR then becomes a second-tier CEQA analysis building upon SCAG's certified RTP EIR. Since "[i]ndividual actions to authorize, fund, and implement the individual project components (track improvements, grade separations and support facilities) will be made independently by each agency in the future when funding becomes available" (Notice of Availability, p. 1), third-tier, construction-level EIRs can then be prepared to address the more localized, site-specific impacts associated with each of those components.

Referencing Section 15146 of the State CEQA Guidelines: "The degree of specificity required in an EIR will correspond to the degree of specificity involved in the underlying activity which is described in the EIR. (a) An EIR on a construction project will necessarily be more detailed in the specific effects of the project than will be an EIR on the adoption of a local general plan or comprehensive zoning ordinance because the effects of the construction can be predicted with greater accuracy. (b) An EIR on a project such as the adoption or amendment of a comprehensive zoning ordinance or a local general plan should focus on the secondary effects that can be expected to follow from the adoption or amendment, but the EIR need not be as detailed as an EIR on the specific construction projects that might follow" (emphasis added).

17-76 Since the DPEIR "has been prepared to address funding, construction and operation of the Third Main Track and Grade Separation Project" (emphasis added) (p. 1-4), it is clearly the intent of the Lead Agency to use this CEQA process as the sole basis for actual implementation of the proposed project. Although numerous activities may be consolidated under a single CEQA document, the level of analysis presented must be sufficient to allow individual project-level decisions with regards to each component.

17-77 As further required under the State CEQA Guidelines, "[a]n EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible" (14 CCR 15151). Since the DPEIR is intended to authorize the construction of the proposed improvements and the commencement of operations, it is toward that level of detail that the sufficiency of the DPEIR must be evaluated.

17-78 As indicated in the DPEIR: "The Valley View grade separation is the only fully funded grade separation project at this time" (pp. 3-16 and 3-17). As such, a detailed project-level analysis of

**Responses to Comment Letter #17 (continued)**

- 17-74 Please see Responses to Comments 17-5, 17-11, 17-23, 17-32 and 17-62. The proposed project is not the overall improvement of the BNSF corridor through year 2025. The proposed project consists of the discrete project components defined in Chapter 3 of the DEIR. It is entirely appropriate for the proposed project to constitute a "program" for purposes of the preparation of a program environmental document. See, CEQA Guidelines Section 15168(a).
- 17-75 The proposed project is not a "tier" of any other project. It is a specific project with several components that are interrelated by proximity and timing. Please refer to comment letter #6 from Southern California Associated Governments (SCAG), as well as the responses thereto, which verify compliance with the RTP. Just because a project is identified as a component of the RTP does not require that all projects in the RTP be evaluated, particularly since they are not undergoing engineering or development and are too uncertain and speculative to allow for meaningful environmental evaluation. See, *Delmar Terrace Conservancy Inc. v. City Council of the City of San Diego* (1992) 10 Cal.4th 712, 730. Please also see Responses to Comments 17-5 and 17-11.
- 17-76 As a program environmental document, the initial decision by the Lead Agency (the Department of Transportation Division of Rail) will be to fund or not to fund the Third Main Track for implementation. Current State budget constraints indicate that initial funding will be available for the southern 3-4 miles of the Third Main Track. Accordingly, following certification of the EIR, the Division of Rail can approve construction of this segment of the proposed project. All future segments and each of the grade separations must be reexamined in the context of the certified Program EIR before they can be authorized to proceed. CEQA Guidelines Sections 15162 and 15168 outline the procedures for such future approvals. In this case, future phases of the Third Main Track must be approved by the Division of Rail. It appears at this time that the cities of Pico Rivera, Santa Fe Springs and La Mirada will act as CEQA Responsible Agencies for the grade separations. Under this scenario, the Responsible Agencies must make each future decision in the context of CEQA Guidelines Section 15096 and the above referenced Sections of the Guidelines. If the environmental analysis of the impacts of those future improvements in the Program EIR is insufficient, additional CEQA review will be necessary before approval of the phases of the proposed project involving those improvements. Please see Response to Comment 17-79.
- 17-77 Please see Responses to Comments 17-76 and 17-79. Sufficient information is presented in the DEIR for this stage of review under a program environmental document in the current state of review for each project component.
- 17-78 Sufficient information is presented in the DEIR for this stage of review under a program environmental document and for the current state of review for each project component. Please see Responses to Comments 17-72, 17-76 and 17-79.

17-78  
cont.     that project component must be presented prior to the approval of any discretionary actions affecting that property. That level of detail, however, is presently absent from the DPEIR.

17-79     The absence of that analysis is evidenced by the Lead Agency's own declaration that "[c]onstruction related impacts were not quantitatively assessed in this document" (p. 4.8-15). As its rationale for failing to conduct that analyses, the Lead Agency concludes that "any impacts which may occur due to construction activities are temporary in nature" (p. 4.8-15). Just because a significant impact is temporary (e.g., "Construction activities for the third main track and retrofitting of bridges are expected to commence as soon as funding is available and be completed within 18 to 24 months," p. 4.2-14) does not mean that the resulting effect becomes less than significant, particularly when no time dependent thresholds have been established by the Lead Agency.

17-80     The courts have criticized federal lead agencies for their failure to address construction-term impacts. As noted in Alexandria Historic Restoration and Preservation Commission v. United States Department of Transportation, the agency's environmental analysis "neither attempts to quantify such air emissions, nor describes how such impact could affect the human and non-human environment. Discussions of noise, visual, and other impacts in this section are similarly vague and non-informative. Such terse summaries of the likely effects do not come close to providing the public with the kind of information necessary to weigh the environmental costs and benefits of the project."

17-81     In addition, it is evident that the proposed project has not been designed to accommodate the anticipated future needs for additional rail facilities. As indicated in the DPEIR, at Valley View Avenue, "[a] three track bridge will be constructed" (p. 3-20). From the above information, it is evident that "a four track line from LA to Fullerton" (White Paper, p. 30) will be required. As such, once a need for that fourth track materializes, some or all of the improvements associated with the proposed project will need to be removed and new facilities constructed. Rather than subjecting all residences and businesses in proximity to those improvements to a second round of construction impacts, future disturbances could be minimized if the ultimate design plan was implemented so that the fourth rail could be installed without major disruption to those receptors.

### **3.7 MISREPRESENTATION OF PROJECT'S "HORIZON YEAR"**

#### **3.7.1 Unreasonable Limitation on the Projection of Future Post-Project Conditions**

As indicated in the RTP EIR: "In developing the 1998 RTP, transportation corridors were identified throughout the region in order to provide a mechanism for assessing project benefits and performance. . . The corridors evaluated in the 1998 RTP continue to represent the major transportation routes of the region. Most of the projects evaluated in the 1998 RTP are continued in the 2001 RTP Update. Thus, the corridor evaluation and project selection effort undertaken for the 1998 RTP is substantially relevant to the 2001 RTP Update and is hereby incorporated by reference" (RTP EIR, p. 5).

SCAG's "1998 Regional Transportation Plan" (1998 RTP) stated: "It is important to identify and preserve transportation corridors needed to expand or enhance transportation for future generations. . . Ideally, the long-range corridors will encourage planners and policy-makers to start preparing strategies for preserving corridors now. Planning can prevent losing right-of-way needed for transportation beyond the year 2020. The first step in this kind of planning for the



**Responses to Comment Letter #17 (continued)**

- 17-79 Under CEQA Guidelines Section 15168, a program EIR is an EIR prepared for a series of actions that can be characterized as one large project. Use of a program EIR allows a Lead Agency to characterize the overall program as the project approved at that time. If a sufficiently comprehensive and specific program EIR is prepared, the Lead Agency may dispense with further environmental evaluation of earlier approvals of activities within the program that are adequately covered in the program EIR. CEQA Guidelines Section 15168(c). When a program EIR is used, the Lead Agency must examine activities within the program as they come up for approval, to determine whether additional environmental documentation is required. If the Lead Agency determines that the activities are within the scope of the program examined in the program EIR, that no effects that were not examined in the program EIR could occur, and that no new information shows that new mitigation measures or alternatives are required, the Lead Agency may approve the activity as being within the scope of the program EIR, and no additional environmental documentation is required. CEQA Guidelines Section 15168(c)(1)(2).

At this stage of review, the program EIR relies also upon traffic management plans to provide adequate mitigation of traffic flow impacts during construction activities. Mitigation measure 4.8-1 establishes a performance standard that must be met to realize a less than significant impact on traffic during construction. If it is determined at the time of approval of individual project components that the standard of significance will not be met, then subsequent environmental documentation will have to be prepared.

- 17-80 The DEIR contains specific impact forecasts for noise, air emissions and other construction related impacts, to the extent that they can be quantified. Where impacts cannot be quantified because it is too early in the review process, performance mitigation standards have been established which must be met, or as indicated in Responses to Comments 17-76 and 17-79, additional environmental documentation must be prepared.
- 17-81 Please see Responses to Comments 17-5, 17-11, 17-23, 17-32 and 17-62. As set forth in those responses to comments and elsewhere, at the present time, the concept of a fourth track is too uncertain and speculative to allow for meaningful environmental evaluation. Accordingly, a fourth track is not part of the proposed project. See, *No Oil, Inc. v. City of Los Angeles* (1974), 13 Cal.3d 68.

future is to identify potential long-range corridors and determine there is a need to preserve them. . . The information sources for long-range corridors include: [1] Various long-range transportation studies; [2] Recommendations from Caltrans; [3] Transportation Corridor projects expected to be operational after 2020; and [4] Informal discussions with public agency staff" (emphasis added) (1998 RTP, Section 6.1). As evidenced by the 1998 RTP, a post-2020 planning horizon is required in order to focus agency efforts toward the long-term preservation of transportation corridors.

17-82

With regards to traffic forecasting, the Lead Agency CEQA Guidelines state: "Traffic forecasts are essential for all project studies that propose to increase the capacity or improve the operations of a facility to carry traffic. The following information is included in traffic forecasting: traffic volumes; current traffic; and traffic forecasted for 20 years beyond the last stage of construction. Current traffic includes average annual daily traffic (AADT); peak hour and directional split for each alternative; and level of service for existing conditions. Forecasted traffic includes AADT for each alternative; peak hour and directional split for each alternative; turning movements at proposed interchanges or intersections; and level of service for each alternative" (emphasis added). Notwithstanding its own procedures, the traffic analysis in the DPEIR is limited to 2005 (e.g., "For the purpose of the EIR, a near-term year 2005 horizon year has been selected for analysis," p. 4.8-9).

17-83

Since the "construction of the grade separations will be delayed indefinitely" (p. 3-5), there exists no supportable rationale to either approve the project described in the DPEIR absent evidence of the project's feasibility or, as part of the environmental analysis, to assert that those conditions that are projected to exist in 2005 accurately reflect the post-project setting in which the completed third rail and grade-crossing project will exist. Since the project will, in all likelihood, not be fully implemented within the time period assumed in the DPEIR, there exists no factual basis to assert that the project's environmental assessment can be limited to an assessment of 2005 conditions (e.g., "To estimate rail growth, existing peak hour train frequencies were adjusted to reflect the increase in rail activities through the 2005 horizon year," p. 4.8-10; "Existing 2002 traffic volumes were increased by a growth factor of 1.03 to account for regional traffic growth through the 2005 horizon year," p. 4.8-9 [emphasis added]).

17-84

Absent from the DPEIR is any declaration that "2005 horizon year" conditions accurately reflect those conditions that are likely to exist within the general project area once the project is fully implemented. Similarly, since the project is "delayed indefinitely," there exists no assurance that funding can be secured and all improvements fully implemented within that time period. Since many near-site conditions will continue to deteriorate (e.g., traffic) over time absent substantial physical improvements to those services and systems, it is reasonable to assume that a longer planning horizon would yield different conclusions than those presented in the DPEIR.

### 3.7.1 Cumulatively Considerable Impacts and Probable Future Projects are Ignored in Lead Agency's Myopic Perspective

17-85

As indicated in Table 4 (BNSF Peak-Day Rail Traffic for 2000, 2010 and 2025 on the LA Inland Basin Rail Network) herein, rail volumes are projected to increase between 2000-2010 and between 2010-2025. Even in 2010, rail volumes will be nearly 50 percent higher than now assumed in the DPEIR for 2005 conditions. As such, the "program" that must be addressed in this PEIR is the larger capital improvement project reflected in Table 5 (Required Capacity Improvements on the LA Inland Basin Rail Network for Each Routing Alternative).

**Responses to Comment Letter #17 (continued)**

- 17-82 CEQA guidelines do not require an EIR to forecast 20 years beyond the construction of a proposed project as claimed in this comment. CEQA guidelines require a project to assess its potential traffic impacts at full-buildout. Given the nature of the proposed project (enhancement of local circulation system by eliminating traffic delays due to trains), a 20-year analysis would likely show that under the "Without Project" scenario, delays would likely be worse than Year 2005. Traffic impacts resulting from the proposed project under 2020-2025 traffic conditions would have the same effect as shown in the DEIR as the grade separation components of the proposed project will eliminate rail-to-auto conflicts and would have a net overall beneficial effect on the flow of traffic on the local circulation system. Given the above, the year 2005 was assumed to be the target year for the various track and grade separation improvements and therefore the traffic impact forecast addressed this date. Note that following completion of all the grade separations the circulation improves dramatically. At each grade separation about three hours of delays are eliminated. With such circulation system improvements resulting from these project components, the proposed project cannot contribute to any future degradation of the circulation system which made a year 2020 evaluation a moot issue for the proposed project. Regardless of what happens in 2020 with traffic at these locations, the circulation at each grade separated intersection must be better than it would otherwise be because more than three hours of delays would be eliminated from the intersections.
- 17-83 Please refer to Response to Comment 17-82. The 2005 traffic impact forecast date remains valid because funding could be made available at any time. However, as a programmatic document, when funding becomes available for each grade separation and approval of construction is considered by each jurisdiction, a subsequent environmental determination will have to be made. When funding becomes available for each grade separation and that component of the program is presented for approval, the Lead Agency must examine activities in the program to determine whether additional environmental documentation is required. If the Lead Agency determines that the activity is within the scope of the program examined in the program EIR, that no effects that were not examined in the program EIR could occur, and no new information shows that new mitigation measures or alternatives are required (CEQA Guidelines Section 15168(c)(2)), the Lead Agency may approve the activities as being within the scope of the program EIR and no additional environmental documentation is required. However, if the subsequent environmental analysis concludes that additional impacts not analyzed in the program EIR will occur or if there are other mitigation measures or alternatives that need to be discussed, a subsequent environmental document will be prepared in conformity with Sections 15162 and 15168 of the CEQA Guidelines.
- 17-84 Please see Responses to Comments 17-82 and 17-83. As stated in Response to Comment 17-83, funding for the yet unfunded portions of the proposed project could be made available at any time.
- 17-85 Please see Responses to Comments 17-5, 17-11, 17-23, 17-32 and 17-62. The project description is properly limited to the improvements currently proposed for development and reflected in the project description in the EIR. All other improvements referred to by the commentator are general ideas or concepts and are too uncertain and speculative to allow for meaningful environmental evaluation. See, *No Oil, Inc. v. City of Los Angeles* (1974), 13 Cal.3d 68.

17-86

Clearly, by examining only a three-track segment and year 2005 rail volumes, the Lead Agency ignores the reality and the DPEIR fails to address the impacts that are likely to result from a four-track segment with additional capacity-enhancing improvements along other adjoining and proximal segments of the "BNSF corridor," a corridor that the Lead Agency purports to be the subject of the DPEIR.

As required under Section 15064(i) of the State CEQA Guidelines: "An EIR must be prepared if the cumulative impact may be significant and the project's incremental effect, though individually limited, is cumulatively considerable. 'Cumulatively considerable' means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. 'Probable future projects' are defined in Section 15130."

17-87

As defined therein, "probable future projects" may be limited to those projects requiring an agency approval for an application which has been received at the time the notice of preparation is released, unless abandoned by the applicant; projects included in an adopted capital improvement program, general plan, regional transportation plan, or other similar plan; projects included in a summary of projections of projects in a general plan or a similar plan; projects anticipated as later phase of a previously approved project; or those public agency projects for which money has been budgeted" (14 CCR 15130). Based on that definition, other planned and proposed improvements to the larger "BNSF corridor" constitute "probable future projects" and, therefore, need to be addressed in the DPEIR.

17-88

Although CEQA does not mandate that agencies prepare a "worst-case" analysis, it does require that significant effects be discussed "with emphasis in proportion to their severity and probability of occurrence." (14 CCR 15143). Furthermore, "an agency must use its best efforts to find out and disclose all that it reasonably can" (14 CCR 15144). By ignoring the existence of other rail improvement projects, including the likely need for further expansion of the "BNSF corridor," the Lead Agency has sought to avoid both the disclosure of the broader project's likely impacts and public discussions concerning the nature of those improvements and the significance of those impacts.

### **3.8 MISREPRESENTATION OF THE APPROPRIATE CEQA LEAD AGENCY HAS LEAD TO A CURTAILED ENVIRONMENTAL ANALYSIS**

17-89

As indicated in the DPEIR, "the California Department of Transportation, Division of Rail (Department)" is "the agency with the greatest responsibility for approving and supervising the project as a whole" and, as such, "will serve as the CEQA Lead Agency" (p. 2-2). However, when the list of "permits and approvals" (p. 1-4) is examined, with the exception of a single reference to an unspecified "encroachment permit(s)," nary a permit, approval, or other form of entitlement from the Department has been identified. It appears that the principal role of the Department is merely to "approve the funding for construction of the third main track and related improvements" (p. 3-23). If the Department's sole role is merely to allocate funding, that function does not and should not elevate the Department to the status of "lead agency." In contrast, the DPEIR notes that "State Public Utilities Commission" will be required to approve the "closure of Serapis Avenue and possibly other authorizations" (p. 1-4).

17-90

Because the project is represented as "part of the overall program (one large project) being implemented by BNSF and the Department to fulfill a responsibility to improve intercity

**Responses to Comment Letter #17 (continued)**

- 17-86 Please see Responses to Comments 17-5, 17-11, 17-23, 17-32 and 17-62. The project description is properly limited to the improvements currently proposed for development and reflected in the project description in the EIR. All other improvements referred to by the commentator are general ideas or concepts and are too uncertain and speculative to allow for meaningful environmental evaluation. See, *No Oil, Inc. v. City of Los Angeles* (1974), 13 Cal.3d 68.
- 17-87 Please see Responses to Comments 17-5, 17-11, 17-23, 17-32 and 17-62. Based on the foregoing, the "other planned and proposed improvements to the larger BNSF Corridor" referred to in this comment, are too uncertain and speculative to allow for meaningful environmental evaluation. See, *No Oil, Inc. v. City of Los Angeles* (1974), 13 Cal.3d 68.
- 17-88 Please see Responses to Comments 17-5, 17-11, 17-23, 17-32 and 17-62. The "other rail improvement projects" referred to in this comment, are too uncertain and speculative to allow for meaningful environmental evaluation. See, *No Oil, Inc. v. City of Los Angeles* (1974), 13 Cal.3d 68.
- 17-89 The Department of Transportation Division of Rail will fund the Third Main Track project if the project is approved by the Division of Rail. The decision whether to fund the Third Main Track project is the discretionary act that is the basis of the project. In addition, the Division of Rail has also funded the engineering for the grade separations and may provide funding for implementation of each of the grade separations in the future. Sections 15050 and 15051 of the CEQA Guidelines indicate how a Lead Agency is to be selected. Section 15050 of the CEQA Guidelines states that where a project is to be carried out or approved by more than one public agency, one public agency shall be responsible for preparing the EIR. This agency shall be called the Lead Agency. Section 15051 of the CEQA Guidelines sets forth the criteria for determining the Lead Agency where two or more public agencies will be involved with a project. Section 15051(a) states that if a project will be carried out by a public agency, that agency shall be the Lead Agency even if the project would be located within the jurisdiction of another public agency. Section 15051(c) further states that, where upon application of the criteria for a Lead Agency, two or more public agencies have a substantial claim to be the Lead Agency, the agency which will act first on the project in question shall be the Lead Agency. The Division of Rail is the Lead Agency for the proposed project, because it is one of several public agencies that must make a decision regarding the proposed project and because it will act first in implementing the proposed project. No other public agency has expressed concern regarding Lead Agency status and each of the cities in which grade separation projects will be implemented concurred after significant discussion in the Division of Rail acting as the Lead Agency for preparation of the EIR.
- 17-90 Please see Response to Comment 17-89. Public agencies do not have a conflict of interest by virtue of preparing CEQA documents and making environmental determinations for projects that they fund. All public agencies in the State review their capital improvement projects under CEQA, just as Sections 15050 and 15051 of the CEQA Guidelines indicates when identifying the Lead Agency for public projects. The proposed project does not present a scenario which is any different than the typical scenario of a public agency preparing a CEQA document for a project that it funds.

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cont.

passenger rail service" (p. 2-2), in recognition of the likely role that the California Public Utilities Commission (CPUC or Commission) will play with regards to the project's approval and in recognition of the potential conflict of interest that exists between the Department and BNSF, the CPUC and not the Department should serve as the CEQA lead agency.

Under CEQA, a "lead agency" is responsible for determining whether an EIR is required for a project and, if so required, for preparing the EIR and including it in any report on the project (Friends of Cuyamaca Valley v. Lake Cuyamaca Recreation & Park District). The lead agency is responsible for the process by which the EIR is written, approved, and certified. As required under Section 15051(b) of the State CEQA Guidelines: "If the project is to be carried out by a nongovernmental person or entity, the Lead Agency shall be the public agency with the greatest responsibility for supervising or approving the project as a whole" and "[t]he lead agency will normally be the agency with general governmental power, such as a city or county, rather than an agency with a single or limited purpose" (emphasis added).

17-91

Since "[t]he majority of the project lies within the southern part of Los Angeles County with much of the project, including most of the grade separation projects, being inside the borders of the City of Santa Fe Springs" (p. 4.2-1), because the County of Los Angeles (County) and the City of Santa Fe Springs (City) are the two agencies, among others, "with general governmental power" with the greatest likelihood of experiencing project-related and cumulative impacts, one of those agencies, through mutual agreement, should logically have served as the CEQA lead agency, particularly since neither the County nor the City, unlike the Department, have a potential conflict of interest with BNSF. From the information in the DPEIR, there is no evidence to suggest that any multi-agency discussion even occurred with regards to the manner in which lead agency status was determined.

The importance of the lead agency throughout the environmental review process was highlighted in Kings County Farm Bureau v. City of Hanford, where the court noted: "The lead agency must independently participate, review, analyze and discuss the alternatives in good faith." Moreover, the agency's opinion on matters within its expertise is of particular value. As the process continues, "the lead agency may determine an environmentally superior alternative is more desirable or mitigation measures must be adopted." In sum, the lead agency plays a pivotal role in defining the scope of environmental review, lending its expertise in areas within its particular domain, and in ultimately recommending the most environmentally sound alternative.

17-92

So significant is the role of the lead agency that CEQA proscribes delegation. This prohibition was articulated in Kleist v. City of Glendale where the court noted: "Neither the CEQA nor the state guidelines authorize the city council to delegate its review and consideration function to another body. Delegation is inconsistent with the purpose of the review and consideration function since it insulates the members of the council from public awareness and possible reaction to the individual members' environmental and economic values. Delegation is inconsistent with the purposes of the EIR itself." In the case of the proposed project, the mischaracterization of the lead agency has resulted in the omission of vital information from the environmental review process.

17-93

Since none of the road affected by the grade crossings are designated State highways, no rationale is presented anywhere in the DPEIR with regards to why the Department has selected itself to serve as CEQA Lead Agency. Additionally, absent from the DPEIR is any reference to any agreement that may have been entered into by the various agencies through which the

***Responses to Comment Letter #17 (continued)***

- 7-91 Please see Response to Comment 17-89. The Department of Transportation Division of Rail is the Lead Agency for the proposed project, because it is one of several public agencies that must make a decision regarding the proposed project and because it will act first in implementing the proposed project.
- 17-92 It is difficult to understand the point made in this comment, since no delegation of Lead Agency status has occurred. As set forth in Response to Comment 17-89, the Department of Transportation Division of Rail is the appropriate Lead Agency.
- 17-93 Please see Response to Comment 17-89. The Department of Transportation Division of Rail is the Lead Agency for the proposed project, because it is one of several public agencies that must make a decision regarding the proposed project and because it will act first in implementing the proposed project.

17-93  
cont.

Department became the Lead Agency (e.g., "the public agencies may by agreement designate an agency as the lead agency," 14 CCR 15051[d]).

Because the CPUC has regulatory and safety oversight over railroads and rail transit systems, procedurally, the CPUC and not the Department should have served as the CEQA lead agency since the project is represented as only a "track improvement" that will not "allow for expanded railway traffic" (p. 2-1). The Commission coordinates with the FRA and is the largest participating state agency in the nation to ensure that railroads comply with federal railroad safety regulations resulting from the 1970 Federal Railroad Safety Act, as codified in Part 49 of the Code of Federal Regulations (CFR).

The Commission authorizes construction of new at-grade highway-rail crossings (where roads and tracks intersect at the same level) and construction of underpasses or overheads (where train tracks are above or below the street). Commission staff reviews proposals for crossings, investigates deficiencies of warning devices or other safety features at existing at-grade crossings, and recommends engineering improvements to prevent accidents. In addition, the Commission prepares a priority list of highway-rail crossings that will qualify for federal (Section 130 funds) and State funded grade-separation programs. The Commission's authority over transit agencies is based in state law and delegated by the Federal Transit Administration (FTA) through 49 CFR 49 Part 659.

17-94

Based on the relationship that exists between the Department and BNSF and because the Department does not represent the local jurisdiction (or its constituents) in which the project and its concomitant impacts will exist, the Department is or may not be predisposed to ensuring that all feasible alternatives are considered, all reasonable mitigation measures are imposed, and that all significant or potentially significant environmental effects are either eliminated or reduced to the maximum extent feasible.

17-95

Referencing the State CEQA Guidelines: "The EIR process will enable the public to determine the environmental and economic values of their elected and appointed officials thus allowing for appropriate action come election day should a majority of the voters disagree" (14 CCR 15003[e]). Because the Department's decision-making body does not include local representation, major project decisions will occur and irreversible commitments will be made without the ability of local residents to voice their concerns to their own elected and appointed officials. Instead of the decisions about the project being made in Sacramento, they need to be made at the local level. The only means of accomplishing that is to ensure that a local governmental entity (e.g., city or county) or a joint powers agency established for the sole purpose of formulating a regional or subregional planning response to identified corridor improvement needs serves in the role of CEQA lead agency.

### **3.9 FAILURE TO UTILIZE THE LEAD AGENCY'S OWN ENVIRONMENTAL GUIDELINES**

As required under Section 21082 of CEQA: "All public agencies shall adopt by ordinance, resolution, rule, or regulation, objectives, criteria, and procedures for the evaluation of projects and the preparation of environmental impact reports and negative declarations pursuant to this division." As further required under Section 15022(a) of the State CEQA Guidelines: "Each public agency shall adopt objectives, criteria, and specific procedures consistent with CEQA and these Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents," including the preparation of



***Responses to Comment Letter #17 (continued)***

- 17-94 Please see Response to Comment 17-89. As Lead Agency, the Department of Transportation Division of Rail has the legal obligations set forth in the California Environmental Quality Act (the statute) and the CEQA Guideline Section 15050 of the State CEQA Guidelines. The Division of Rail's discharge of those obligations ensures that the concerns set forth in this comment will not be realized. With regard to BNSF's role in the proposed project, please see Response to Comment 17-42.
- 17-95 Each affected jurisdiction made extraordinary efforts to provide information to local citizens. The following is a summary of these efforts:
1. A total of 10 meetings were held within Pico Rivera, Santa Fe Springs, and La Mirada. Six of these meetings were advertised in more than five regional and local newspapers and more than 1,000 persons were notified of the meetings at the request of the local citizens.
  2. Three of the meetings were held before City Councils and those meetings were advertised to the public.
  3. Additional meetings were held at the request of City representatives.
  4. More than 30 meetings were held with the City staff over the past two years alone, to coordinate the engineering and environmental process to ensure that it meets the objectives of each City.
  5. More than 100 copies of the DEIR were distributed for public review; the Notice of Preparation and the DEIR were placed on the Caltrans District 7 web site; and more than 1,000 Notices of Availability were distributed to the public.

The review group functioned in a cohesive manner as the grade separations were developed. Perhaps most important is that each local jurisdiction supported the Division of Rail as the Lead Agency. To date, such support continues.

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draft and final EIRs. Projects subject to CEQA compliance must then be administered in accordance with those policies and procedures.

17-96

Assuming the reasonableness of the CEQA lead agency determination, once selected, the Lead Agency must then seek to apply its own standards and methodology toward the assessment of project-related and cumulative impacts, the mitigation of those impacts, and the evaluation of project alternatives. Although the Department has sought to define itself as the CEQA Lead Agency, it then failed to apply its own regulations, procedures, standards, policies, and established precedence to the project's evaluation.

For example, as indicated in the Lead Agency CEQA Guidelines: "Noise abatement will be included as part of the project only if constructing the abatement is reasonable and feasible. To determine whether a noise abatement measure is reasonable, conduct a cost-benefit analysis taking the following criteria into account: absolute noise level, build versus existing noise, environmental impacts of abatement, public and local agencies input, newly constructed development versus development pre-dating 1978 and the total noise abatement allowance versus the project cost. Additional information on 'reasonableness' can be found in the CaTNAP, Section 2.8. The preliminary decision of providing noise abatement for exteriors of residential areas in activity Category B is made from the reasonable allowance per benefited residence. Section 2.8.2 of the CaTNAP describes the process of how to determine the reasonable allowance per benefited residence. Feasibility of noise abatement is basically an engineering concern. A minimum 5 dBA reduction in the future noise level must be achieved in order for an abatement measure to be considered reasonable. Other considerations include topography, access requirements, other noise sources and safety considerations"

17-97

Absent from the DPEIR is any evidence that a cost-benefit feasibility analysis has been conducted to determine whether noise mitigation should be included in response to the project's projected operational impacts. In lieu of that analysis, the DPEIR seeks to convey the Lead Agency's own obligations (e.g., "A public agency must meet its own responsibilities under CEQA and shall not rely on comments from other public agencies or private citizens as substitute for work CEQA requires the lead agency to accomplish," 14 CCR 15020) to "the City and local residents" (i.e., "the City and local residences must confront this major issue and determine whether there is sufficient justification, first to construct such a large noise attenuation barrier within the community, second to address the issue of whether partial noise mitigation by a smaller noise attenuation wall may be justified; and third to identify an alternative source of funding to install such a barrier," p. 4.9-15).

17-98

Although "this potential increase in train operations would constitute a significant adverse noise impact under federal guidelines" (p. 4.9-14), no mitigation of any kind is suggested other than for the local agency to address noise impacts through some unspecified process independent of the proposed project.

17-99

With regards to community-based impacts, the Lead Agency CEQA Guidelines establish a requirement for the Department to prepare a "community impact assessment." As indicated therein, "Federal and State guidelines do not specifically mandate analysis of every potential project related community impact. Caltrans, however, must be responsive to issues raised by concerned citizens, interest groups, and local agencies. Accordingly, community impacts should be clearly identified and carefully evaluated, both during the scoping process and in the preparation of the environmental document" (Volume IV, Section 1-2). No "community impact

***Responses to Comment Letter #17 (continued)***

- 17-96 This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. Please see Responses to Comments 17-89 and 17-94. The project was assessed in accordance with the Department's standards and policies and Department Staff independently reviewed all published document and verified the contents prior to public distribution. Further, Department Staff ensured that all legal advertising was conducted in accordance with Department policy and attended all public meetings (eight meetings were held) to oversee direct discussions with the public. Finally, all responses to comments and the content of the Final EIR have been prepared, edited and/or reviewed by Department Staff exercising their independent judgment.
- 17-97 Operational impact were determined to be less than significant based on detailed quantitative field measurements and standard noise modeling. Since operational noise impacts were calculated to be less than significant, there is no need to examine noise barrier walls or other measures to attenuate operational noise.
- 17-98 Please see Response to Comment 17-97. Based on the foregoing, no applicable noise threshold will be exceeded as a result of project related noise impacts. Accordingly, the community (and not the proposed project) should examine noise attenuation alternatives in relation to existing noise levels that exceed community thresholds, which noise levels resulted from placing noise sensitive uses too close to the already existing track(s). At several of the meetings in the cities of Rico Rivera and Santa Fe Springs, local affected residents requested that the possibility of installing a sound attenuation wall be included in the EIR. In response to those requests, the detailed evaluation of a sound wall was included by the Lead Agency in the Technical Appendices. The evaluation concluded that the height of a wall to attenuate sound at the nearest residences would have to be between 25' and 30'. As a result of information in the Technical Appendices, the local residents and the City Councils have sufficient information on which to decide whether to install sound attenuation walls of sufficient height to address the existing noise problem. However, such a sound attenuation walls are not required for nor are they appropriate mitigation for project-related noise impacts.
- 17-99 As described in Response to Comment 17-98, community impacts were clearly identified and addressed. For example, special noise considerations were carried out as indicated in Response to Comment 17-98. In addition, special reviews were conducted for potential exposure from contaminated sites in the City of Santa Fe Springs resulting from construction of grade separations in areas of past oil production. In addition, impacts to a school were given consideration in the City of Pico Rivera. Finally, other community impacts were given special consideration, including fugitive dust generated at the Valley View grade separation.

17-99  
cont.     assessment" is, however, presented in the DPEIR and no rationale provided why this project should be exempt from that requirement.

### 3.10 FAILURE TO ADEQUATELY ADDRESS ECONOMIC AND SOCIAL EFFECTS

17-100     While the DPEIR acknowledges that "[w]here vibration sensitive facilities, such as manufacturing facilities, occur in proximity to construction activities," project implementation "may cause short-term adverse vibration impacts" (p. 4.9-18). As evidence of the Lead Agency's failure to present an adequate project-level analysis, absent from the DPEIR is either a site-specific listing of those "vibration sensitive facilities" or an analysis of how such facilities could be adversely impacted. In lieu of that analysis, the Lead Agency merely seeks to categorize those impacts as "short term" (p. 4.9-18) when, in reality, even a short-term effect could have disastrous consequences to a business entity. Similarly, absent from the DPEIR is any explanation of what makes a particular use a "vibration sensitive facility" and how such impacts could disrupt, disturb, or otherwise effect those uses, including whether a "vibration sensitive" business could even continue to operate in such a disruptive environment.

17-101     As indicated in Section 15131(b) of the State CEQA Guidelines: "Economic and social effects of a project may be used to determine the significance of physical changes caused by the project. For example. . .if the construction of a road and the resulting increase in noise in an area disturbed existing religious practices in the area, the disturbance of the religious practices could be used to determine that the construction and use of the road and resulting noise would be significant effects on the environment." In the case of the proposed project, substitute "business practice" with "religious practice" and substitute "noise" with "vibration."

Sensitive, high-tech facilities, such as those used in microelectronics manufacturing, are generally far more sensitive to vibrations than are people. For purposed of impact analysis, the Federal Transit Administration (FTA) has established three different categories of land uses. Of those, Category 1 (Noise and Vibration Sensitive Building Uses) includes "buildings in which vibration-sensitive research and manufacturing take place, hospital operating theaters, and laboratories that have work activities that cannot tolerate vibration of the building. . .Ground-borne noise, in addition to vibration, can be a serious intrusion for activities in these buildings" (<http://www.fta.dot.gov/office/planning/ep/subjarea/noisevibration.html#Vibration>).

17-102     Based on that definition, SSDI is a Category 1 land use. For Category 1 land uses, short-term and long-term vibration impacts can be so disruptive as to force the cessation of business activities. Those impacts, as well as the loss of jobs and indirect impacts on the higher tier businesses that those vibration sensitive land uses serve are never addressed in the DPEIR.

17-103     The FTA has formulated a detailed methodology for assessing transit-related noise and vibration impacts. Excerpts from "Transit Noise and Vibration Impact Assessment" (FTA, April 1995) are included in Attachment F (Federal Transit Administration - Transit Noise and Vibration Impact Assessment) herein and outline the type of analysis required for assessing and mitigating vibration impacts from rail operations. As indicated therein, the appropriate "ground-borne vibration and noise impact criteria" for Category 1 land uses is "65 VdB" for both "frequent events" and for "infrequent events" (FTA, p. 8-3).

17-104     In direct contrast, although the DPEIR states that "FTA's Transit Noise and Vibration Impact Assessment (DOT-T-95=16, 1995) has been presumed applicable to the proposed project" (p.

**Responses to Comment Letter #17 (continued)**

- 17-100 Throughout the entire engineering design and review process, only one firm raised an issue regarding vibration effects on commercial/industrial operations. That firm was SSDI. The reference on page 4.9-18 regarding construction vibration impacts and vibration sensitive facilities is directed to SSDI, because of Mr. Applebaum's input during the review process. An extra effort has been made to address the concerns raised by Mr. Applebaum.

It is important to note that the proposed Third Main Track will be installed on the north side of the main line corridor (away from SSDI), which will reduce, not increase, long term vibration from train operations. The amount of reduction will be about 0.3 VdB on average (please see page 4.9-18 of the DEIR). Thus, over the long-term, SSDI will experience less vibration from train operations, regardless of volume.

The remaining issue for SSDI is the impact of vibrations from construction operations. Several measures have been incorporated into the construction specifications for the Valley View grade separation to reduce vibration. The most important measure is the installation of structural piers by use of rotary drilling techniques rather than pile driving. The goal is to limit vibration impacts to that already experienced at the SSDI facility, based on existing rail, truck and other construction operations. In accordance with mitigation measure 4.9-9, this level of vibration would be determined against defined performance standards, just prior to the time construction of the Valley View grade separation is proposed. To conduct such a test at this stage of review would be speculative, because SSDI's manufacturing operations may change in the future or the facility may no longer be in production when the Valley View grade separation project is funded and considered for actual construction.

SSDI is acknowledged to be a possible Category I land use. The addition of the third track on the north side of the existing tracks will shift an estimated 1/3 of rail operations 15 feet to the north and the average vibration generation point by about 7.5 feet away from SSDI. Except for the very rare possibility (once every 56 days, on average) of three trains passing SSDI simultaneously which could increase vibration velocities by +2 VdB. (See response to comment Buena Park EIR meeting, #30 which demonstrates that the probability of three trains passing a single point simultaneously is about one event every 56 days.) Otherwise, project implementation will create vibration levels that are no greater than, and generally less, than that experienced under existing conditions. The amount of reduction will be about 0.3 VdB on average (please refer to page 4.9-18 of the EIR). Thus, over the long-term, SSDI will experience less vibration from train operations, regardless of volume.

Based on the review in the Draft EIR from the project's noise/vibration expert, Dr. Hans Giroux, the long-term vibration effects on SSDI will be reduced as outlined above. The short-term vibration effects will be controlled to not exceed existing thresholds that will be measured and used in the contract stipulations prior to a decision being made to proceed with the Valley View grade separation. An adequate project level analysis of the vibration analysis have been completed for this stage of the project review and under the programmatic concept in CEQA, the additional data can and will be gathered prior to the project being approved for construction by the cities of Santa Fe Springs and La Mirada. The net effect is to conduct the construction activities in a manner that will not significantly disrupt or disturb the SSDI operations.

**Responses to Comment Letter #17 (continued)**

- 17-101 This comment is noted and will be forwarded to the Department of Transportation decision-makers for consideration before project approval is made to allow the proposed project to be implemented. Page 18 of Appendix 8.5 states specifically that the vibration impact criteria for “precision manufacturing or research” is 65 VdB for both infrequent and frequent events. However, implementation of the third main track component of the project will not change the vibration level, and may even cause a small decrease. SSDI has located its facilities within an area of existing substantial train vibration impacts (exceeds 65 VdB), and presumably, to maintain operations, SSDI has installed vibration suppression equipment in order to operate successfully. Otherwise, the SSDI facility may be a manufacturing facility, but it cannot qualify as sensitive because the existing background vibration exceeds 65 VdB. Project implementation will not increase the number of vibration events or their magnitude. CEQA significance criteria are based upon changes in severity (frequency or magnitude) of an effect from existing conditions. There are no substantial changes that will be experienced by this facility. Thus, as noted in previous comments, the project’s impact on SSDI is forecast to be nonsignificant and no quantitative data have been presented that contradicts the findings in the document. Further, a program has been established to control vibration during construction so that it will not significantly exceed the current exposure at the project site.

As noted in previous responses comments, including Response to Comment 17-100, the proposed project’s impact on SSDI is forecast to be non-significant and no quantitative data has been presented that contradicts the findings in the DEIR. A review by the vibration expert for the proposed project verifies that the overall vibration from operations will be reduced with the Third Main Track, relative to the existing condition. Further, a program has been established to measure vibration during construction against a defined performance standard, so that it will not exceed the current exposure at the project site.

- 17-102 Please see Responses to Comments 17-100 and 17-101. Based on the foregoing, neither short-term nor long-term vibration impacts will exceed current exposure at the project site
- a. Vibration levels substantially exceeding 65 VdB (Category I standard) exists at present and would have existed before SSDI began its operations at this site due to rail operations having occurred along this alignment since the turn of the 20<sup>th</sup> Century.
  - b. Project implementation will not increase the severity or frequency of vibration levels exceeding the 65 VdB criterion except for a few minutes per year.

Thus, this issue is properly quantified and addressed in the Draft EIR.

**Responses to Comment Letter #17 (continued)**

- 17-103 Please see Responses to Comments 17-100 and 17-101. As indicated on page 4.9-17 of the DEIR, the existing vibration velocity at SSDI was shown by the model to be somewhere between 72 and 78 VdB, based on the location of the SSDI facility within 100-200 feet of the existing main line tracks. Further, transient or infrequent vibration at the project site may be exposed to 80 VdB. The existing vibration setting already exceeds the Category 1 "ground-borne vibration and noise impact criteria." In addition, as shown in the DEIR (Page 4.9-18 and Appendix 8.5), operational vibration will be reduced at the SSDI facility with the installation of the Third Main Track, by an estimated .3 to .4 VdB on average. Accordingly, the proposed project will improve the background vibration exposure over the long-term. In addition, during construction (over the short-term), the agencies will maintain vibrations within the background conditions at the time construction is initiated. This will be accomplished within the framework of mitigation measure 4.9-9 and the mitigation monitoring and reporting program which will be considered by the Division of Rail before making a decision on the proposed project.

The FTA methodology was applied to all identified land use categories along the alignment which were presumed to Category II (residential) or Category III (industrial) uses based upon visual inspection by the noise/vibration consultant. Please see pages 17-19 of Appendix 8.5 detailing the use of the FTA Manual and its application to this project.

The existence of this Category I use was unknown based on the type of structure and location. As noted above, there are no significant impacts to SSDI because there will be a net migration of vibration generation away from the facility with installation of the third main track. As indicated on page 4.9-17 of the Draft EIR, the vibration velocity at SSDI was shown by the model to be somewhere between 72 and 78 VdB, based on the location of the SSDI facility within 100-200 feet of the existing main line tracks. Further, transient or infrequent vibration at the project site may be exposed to 80 VdB. In other words, the FTA criterion is irrelevant at this site because the existing vibration setting already exceeds the Category 1 "ground-borne vibration and noise impact criteria." The fact that SSDI can successfully operate at the existing background level of vibration clearly indicates that the vibration is already sufficiently suppressed in the facility or the Category 1 criterion does not apply to SSDI. Otherwise, the facility would already have had to relocate to avoid the existing background vibration condition.

- 17-104 Please see Responses to Comments 17-100, 17-101 and 17-103. The text of the Final EIR will be corrected to identify SSDI as a Category 1 use. The Draft PEIR acknowledges on page 4.9-18 that there is a potential for adverse construction activity vibration impacts from equipment such as pile drivers. Existing vibration levels at the SSDI facility from the current train passages are 75-78 VdB (150 feet to track centerline).

The nearest point of underpass construction operations that will use large equipment is about 225 feet from SSDI. The construction activity vibration levels, as determined from Table 12-2 of the FTA Guidelines are as follows (VdB):

**Responses to Comment Letter #17 (continued)**

17-104 (cont.)

Pile Drive (impact)	- maximum	93 VdB
	- typical	85 VdB
Pile Driver (sonic)	- maximum	86 VdB
	- typical	74 VdB
Excavator		75 VdB
Large Bulldozer		68 VdB
Caisson Drilling		68 VdB
Loaded Trucks		67 VdB
Jackhammer		60 VdB

Because impact and sonic pile drivers could exceed the current background vibration, the construction specifications require caisson drilling to replace pile driving activities at Valley View. Modification of the construction techniques and/or scheduling activities to less sensitive time periods, clearly can reduce vibration impacts to levels no greater than currently accommodated by SSDI operations



17-104  
cont. 4.9-11), the Lead Agency states "[t]he vibration velocity impact criterion for residences is 72 VdB for frequent events, and 80 VdB for infrequent occurrences" (Appendix 8.5, p. 19). Furthermore, the DPEIR erroneously states that "Category 1 uses do not occur near the track" (p. 4.9-10).

17-105 The Lead Agency's failure to appropriately apply FTA's methodology, notwithstanding its declarations to the contrary, demonstrates: (1) the inadequacy with which the Lead Agency has approached not only this topical issue but the broader issue of project-related and cumulative impacts on adjoining land uses; (2) the Lead Agency's failure to apply appropriate and reasonable threshold of significance criteria in assessing project-related and cumulative impacts; (3) the Lead Agency's failure to consider social and economic impacts; and (4) the Lead Agency's failure to effectively mitigate for those impacts.

### 3.11 FAILURE TO FORMULATE FEASIBLE MITIGATION MEASURES

#### 3.11.1 Failure to Demonstrate the Efficacy of Recommended Mitigation Measures

The courts have consistently held that under CEQA, agencies may not rely on mitigation measures of unknown efficacy in concluding that significant effects of a project will be substantially lessened or avoided (*Oro Fino Gold Mining Corp. v. County of El Dorado*; *Kings County Farm Bureau v. City of Hanford*; *Sundstrom v. County of Mendocino*). In addition, omission of a reasonably complete discussion of possible mitigation measures undermines the "action-forcing" function of NEPA (*Robertson v. Methow Valley Citizens Council*).

Because SSDI is a vibration sensitive land use, one of the items of likely concern to SSDI related to vibration impacts. As indicated in the DPEIR, "there is a potential for significant, random vibration impacts associated with use of certain equipment"; however, "the mitigation measures identified below will reduce these potential short-term impacts to a level of nonsignificant impact" (p. 4.9-18). A number of mitigation measures are then proposed by the Lead Agency (i.e., Mitigation Measure Nos. 4.9-8 through 4.9-10).

17-106 Mitigation Measure No. 4.9-8 states that "BNSF or the construction contractor shall establish a noise/vibration complaint program" wherein noise/vibration complaints "shall receive a formal response, either by making modifications to project operations or activities or by installing measures to reduce noise/vibration at the receptor location" (p. 4.9-19). Once construction activities are underway, all equipment and resources marshaled at the job site, the "construction contractor" has no incentive to make any substantive "modifications to project operations or activities." A design calling for driven piles will not then be replaced by a revised design calling for an entirely different foundation system. Alternatively, the Lead Agency has not demonstrated that there exist any "measures to reduce noise/vibration at the receptor location" and, even if such measures could be formulated, that they are economically feasible and capable of immediate implementation.

17-107 Mitigation Measure No. 4.9-9 directs "the contractor to modify the construction procedure or arrange to complete the construction task in a manner that will reduce vibrations to a level below that which causes significant impacts" (p. 4.9-19). Because a significant vibratory impact has been identified, the document demonstrates that those impacts cannot be reduced below a level of significance, other than through mitigation. The mitigation, however, neither demonstrates that there exists any tools or techniques that will prove effective nor outlines a monitoring or performance program that provides reasonable assurance that substantive reduction can be

**Responses to Comment Letter #17 (continued)**

- 17-105 As the previous responses to comments, including the Responses to Comments 17-100, 17-101 and 17-103 indicate, the statements made in this comment are not accurate. The analysis of vibration impact is adequate and only one correction is required to the text of the final EIR (please see Response to Comment 17-104). The appropriate thresholds have been applied and have been determined to already be exceeded. Accordingly, there can be no adverse impact if operational vibrations are reduced relative to the existing condition and construction vibrations are held below those already experienced at the site. The project impact forecast integrates all known vibration sources into the impact forecast. Mitigation is not required for long-term, operational impacts since vibration from train operations will be lowered and appropriate mitigation has been identified for short-term construction impacts.

The only potentially significant construction activity vibration impact is shown in response to comment 71-104 to be due to pile driving activities. Avoidance of pile driving would maintain vibration levels at less than existing conditions. Thus, mitigation measure 4.9-10 is clearly feasible and reasonable. As the previous responses to comments indicate, the conclusions contained in this comment are not accurate. The analysis of vibration impact is adequate, only one correction is required to the text; the appropriate thresholds have been applied and determined to already be exceeded, and there can be no adverse impact if operational vibrations are reduced relative to the existing condition and construction vibrations are held below those already experienced at the site.

- 17-106 CEQA Guidelines Section 15126.4 requires that all mitigation measures must be "fully enforceable through permit conditions, agreements, or other legally binding instruments." The actions required pursuant to mitigation measure 4.9-8 will be incorporated into the contractor's contract and failure to perform can either lead to penalties or to termination of the contract. Accordingly, mitigation measure 4.9-8 complies with CEQA Guidelines, because it is enforceable through the construction contract, which is a legally binding agreement. In addition, please refer to the mitigation monitoring and reporting program, which identifies the process for each agency, to ensure that mitigation measures can and will be enforced. In addition, please note that in response to concerns expressed by SSDI representatives, the design engineers have already incorporated construction techniques in the contract stipulations to reduce vibration. This includes phasing construction activities and using drilling techniques to install the piers that are required to support structures associated with the Valley View grade separation. Finally, if the construction measures cannot be implemented to the extent that vibrations are reduced to a level that does not exceed existing levels of vibration, the agency considering approval of the grade separation project will have to conduct additional environmental review in accordance with the programmatic review procedures described in Sections 15162 and 15168 of the CEQA Guidelines. Therefore, mitigation measure 4.9-8 is a proper, enforceable mitigation measure. Please also see Responses to Comments 17-100, 17-101 and 17-103.

**Responses to Comment Letter #17 (continued)**

17-106 (cont.)

The conclusion in this comment is also inaccurate for several reasons. The incentive to comply with mitigation is that it is incorporated into the contractor's contract and failure to perform can either lead to penalties or to termination of the contract. So there will be incentive. Please refer to the mitigation monitoring and reporting program which identifies the process for each agency to ensure that mitigation measures can and will be mitigated. Also, note that in response to concerns expressed by SSDI representatives, the design engineers already incorporated construction techniques in the contract stipulations to reduce vibration. This includes phasing construction activities and using drilling techniques to install the piers that are required to support structures associated with the Valley View grade separation. If the construction measures cannot be implemented to the extent that vibrations are reduced to a level that does not exceed existing levels of vibration, the agency considering approval of the grade separation project will have to conduct follow-on environmental review in accordance with programmatic review procedures outlined in Sections 15162 and 15168 of the State CEQA Guidelines. Until specific details of construction are finalized as the construction contract is authorized, including background vibration conditions at the time the contract is considered, the performance standard mitigation contained in measure 4.9-8. Finally, Mitigation measure 4.9-1 will be modified to add "emergencies and/or for public convenience or secondary impact reduction." This will allow for nocturnal roadway closure while leaving the road open during peak travel, and to accommodate unique noise or vibration sensitivity such as SSDI.

17-107 Please see Responses to Comments 17-100, 17-101, 17-103, 17-105 and 17-106. Contrary to the statements made in this comment, the DEIR clearly concludes that there will be no long-term significant vibratory impact associated with the implementation of the Third Main Track project. In fact, the data indicates that long-term vibration will actually decrease at the SSDI facility and at other locations there will be no significant impact. The potential exists for short-term significant vibratory impacts. However, mitigation is identified and will be implemented that can ensure that the existing vibration levels are not exceeded. As noted in previous responses to comments, including the Response to Comment 17-100, drilling instead of pile-driving has already been identified for implementation at the Valley View grade separation, which is near the SSDI facility. Finally, if measures are not available as defined before construction begins (in the construction contract), then an additional environmental document will have to be prepared. Mitigation measure 4.9-9 clearly requires control of vibration impacts.

As noted, there is no long-term significant vibratory impact. In fact, the data indicate that long-term vibration will decrease at the SSDI facility and at other locations there will be no significant impact. Also as noted above, drilling instead of pile-driving has already been identified for implementation at Valley View near SSDI. If measures are not available as defined before construction begins (in the construction contract), then a second-tier environmental document will have to be prepared. The temporary relocation of an affected use is considered a measure of last resort that would be utilized only if other measure do not work. As noted in response to comment 17-105, mitigation not requiring relocation is considered reasonable and feasible for the SSDI location. Thus, the mitigation is considered clear and consistent in requiring control of vibration impacts.

17-107  
cont. obtained. Again, the contractor has no mandate or economic incentive to cease construction while unspecified modifications occur and to test their efficacy prior to recommencement. Additionally, no time frame is specified between receipt of a noise/vibration complaint and implementation of corrective actions.

17-108 The identified construction operation modifications include: (1) "using equipment that generates less vibration"; (2) "scheduling vibration equipment use during periods when vibration impacts to the user will be minimized, such as night"; (3) "altering the use of existing equipment to reduce vibrations"; and/or (4) "altering any environmental conditions that may be contributing to vibration, such as potholes or bumps" (p. 4.9-19). Based on the Lead Agency's own analysis, it is not "potholes" that produce the significant impact so the latter strategy is virtually meaningless. SSDI and others maintain 24-hour schedules so that equipment use, during any time of the day, would produce a comparable impact. Since the Lead Agency previously identified a mitigation measure prohibiting evening and nighttime construction (i.e., Mitigation Measure No. 4.9-1), it is unclear how construction at "night" could even be considered as a possible remedy. Similarly, since the Lead Agency previously identified a mitigation measures requiring the utilization of "construction methods or equipment that will provide the lowest level of noise" (i.e., Mitigation Measure No. 4.9-2), it is unclear how replacement equipment would further mitigation noise impacts. Furthermore, the Lead Agency has failed to demonstrate that there exists alternative "equipment that generates less vibration."

17-109 Mitigation Measure No. 4.9-10 suffers from the same problems as Measure No. 4.9-10. However, in this measure the Lead Agency indicates that one possible remedy is "funding relocation of the affected use during any pile driving activity" (p. 4.9-19). Absent from the DPEIR is any evidence that such action would, in fact, be feasible. To be effective, construction would have to cease until a replacement facility was located, a lease or other agreement negotiated (following the completion of subsequent environmental review), and the existing facility (inclusive of all its equipment and manpower) moved to the new site. Only then would construction be allowed to recommence. It is not inconceivable that those activities could take three or more months to complete. Since there are no "stop work" provisions in any of the mitigation measures and since the contractor has no economic incentive to alter construction depending those actions, in reality, work would continue and likely be completed long before relocation plans could be finalized. Additionally, the Lead Agency has not demonstrated that sufficient funds have been reserved to accommodate temporary relocation.

17-110 Although they take up a lot of space in the DPEIR, none of the three measures that purport to reduce significant noise/vibration impacts to a less-than-significant level will, in fact, produce the desired results. Additionally, the Lead Agency's approach to the mitigation of vibration impacts is not consistent with those presented in FTA's "Transit Noise and Vibration Impact Assessment" (Attachment F). As such, significant, unavoidable, adverse impacts will remain despite the unsupported declarations of the Lead Agency.

17-111 Additional examples of ineffectual mitigation measures include, but are not limited to the following measures contained in the DPEIR/DEIS: "To the extent feasible, installation of pipelines or other construction activities in support of the Third Main Line and Grade Separations shall not be located on major evacuation response routes with any affected communities" (Mitigation Measure No. 4.6-4); and "Where reclaimed water is reasonably available, its [sic] shall be used in place of potable water for construction activities" (Mitigation Measure No. 4.7-5).

**Responses to Comment Letter #17 (continued)**

- 17-108 As noted in previous responses to comments, including Response to Comment 17-100, pile driving can create significant vibration impacts. Drilling to install foundation piers instead of pile driving can eliminate this impact. In addition, activities that do not generate noise, such as rolling for compaction, can be used instead of compactors. Finally, due to the presence of large trucks delivering material, maintaining the road without potholes prevents jolting which adds to localized vibration. Should night time construction be required for a specific circumstance and should the activity not generate noise (as opposed to vibration), an exception could be made for night time construction activity with appropriate performance standards, such as no sensitive noise receptors affected by the project or controlling noise at the nearest sensitive receptor to a level below the existing background sound level. Additional measures that could be taken include the use of sound barriers, vibration barriers or other measures. Mitigation measures 4.9-8, 4.9-9 and 4.9-10 establish performance standards that must be met or additional environmental review must be conducted pursuant to CEQA Guidelines Sections 15162 and 15168.

Also, this comment focuses on specifics rather than the requirement to accomplish the mitigation, regardless. The three mitigation measures that will mitigate impacts from vibration to less-than-significant levels during construction are fully consistent with Section 12.2.3 of Attachment F provided by the commentor. The FTA guidelines suggest:

- a. Design consideration and layout (operation away from sensitive uses, where feasible).
- b. Sequence operations (perform operations linearly instead of in parallel, and operate at the least sensitive time periods).
- c. Alternative construction methods (drilled or vibrated piles, reduce impact/drop during demolition).

Measures 4.9-8, 4.9-9 and 4.9-10 are clearly consistent with the FTA Guidelines. For example, pile driving is often a 24-hour activity; drilling to install foundation piers instead of pile driving can eliminate this impact; activities that do not generate noise, such as rolling for compaction can be used instead of compactors; and due to the presence of large trucks delivering material, maintaining the road without potholes prevents jolting which adds to localized vibration. Should night time construction be required for a specific circumstance and should the activity not generate noise, as opposed to vibration, an exception could be made to the night-time construction activity. These are specific actions that could and, if necessary, would be taken to reduce noise/vibration. Additional measures include use of sound barriers; vibration barriers; or other measures. Bottom line, the mitigation measure establishes a performance standard that must be met or subsequent environmental documentation must be prepared.

- 17-109 Please see Response to Comment 17-106. If mitigation is not successful, then either alternative mitigation may be imposed or a finding of significant impact has to be made. Relocation of a business may be one of the mitigation alternatives considered as discussed above in Response to Comment 17-108; but only if justified by the construction activities that generate vibration or noise. Stop work provisions would be included in the contract stipulations in accordance with the mitigation monitoring and reporting program. Mitigation must be funded, or additional environmental documentation must be provided as previously described.

***Responses to Comment Letter #17 (continued)***

- 17-110 Please see Responses to Comments 17-100, 17-101, 17-103, 17-106, 17-107, 17-108 and 17-109. As the previous responses to comments demonstrate, no significant vibration or noise impacts will result from implementation of the proposed project with implementation of the mitigation measures contained in the DEIR.
- 17-111 This comment takes out of context mitigation measure 4.6-4. The primary mitigation measure is measure 4.6-3, which requires the preparation and implementation of a road operation management plan that will ensure emergency access will be available during construction. Mitigation measure 4.6-4 is required to minimize the need to prepare and implement such plans. These two measures interact to reduce, to the extent feasible, the overall hazards associated with project construction activities which will occur within road rights-of-way.

17-112 Each of these mitigation measures contain specific limiting language (e.g., "where feasible"), allowing the Lead Agency or another party to apply discretion as to whether these measures will be implemented and, if implemented, to what extent. Those decisions will occur outside of the CEQA process and without opportunities for public or agency scrutiny. Similarly, no measurable criteria or other performance standards are identified which will control agency decisions. Since construction contracts are often allocated to the lowest bidder, any measures that would likely result in the incurrence of costs or extent the project schedule can readily be deemed "infeasible" and not implemented, either in part or in whole.

17-113 Based on the apparent "voluntary" nature of these and other related mitigation measures, no mitigating "benefit" can be assumed to derive from these measures. As a result, not only are these measures meaningless and unenforceable, but they provide no assurance that any environmental mitigation will, in fact, result from their adoption as project conditions. In the absence of demonstrated or demonstrable performance, these and other illusory "mitigation measures" cannot serve as a factual basis for asserting that otherwise significant impacts will, in fact, be reduced to a less-than-significant level.

### **3.11.2 Conveyance of Lead Agency's Obligations to Other Parties**

As required under Section 15020 of the State CEQA Guidelines, "[e]ach public agency is responsible for complying with CEQA and these Guidelines. A public agency must meet its own responsibilities under CEQA." As further indicated in the "Discussion" following that section: "This section makes the point that an agency is responsible for its own compliance with CEQA."

17-114 As now drafted, many of the mitigation measures contained in the DPEIR convey to others the Lead Agency's own responsibility for the analysis and mitigation of project-related and cumulative environmental impacts. For example, as indicated in the Initial Study and incorporated as a mitigation measure in the DPEIR: "Prior to initiating construction of the Passons Boulevards grade separation, BNSF shall submit a mitigation plan to the local school district providing new acreage to offset the loss of acreage from the project implementation at Maizeland School. If such acreage compensation is not feasible, BNSF shall provide improvements to school facilities deemed acceptable by the local school district to offset the loss of play area and parking" (Initial Study, p. 40).

17-115 As drafted, that mitigation measure conveys to the project proponent (rather than the Lead Agency itself), a party motivated by self-serving economic and scheduling considerations, the responsibility for the formulation of a "mitigation plan," as well as the authority to act as the sole determinant of whether a particular action is "feasible."

17-116 Since no definition of "feasibility" is provided in the DPEIR, no objective criteria exists upon which that decision will be made. Through non-disclosure, the affected public is precluded from submitting comments to the project's decisionmakers as to what is and what is not "feasible." In addition, the Lead Agency has failed to demonstrate: (1) whether "new acreage" does, in fact, exist which could be acquired; (2) the location of that acreage, if any, and the impacts (e.g., displacement of additional residences) that would likely result from its conveyance to the school district; and (3) the nexus and compensatory value between the provision of "improvements to school facilities" and the reduction in on-campus acreage.

***Responses to Comment Letter #17 (continued)***

- 17-112 Please see Responses to Comments 17-108 and 17-111. All of the mitigation measures are feasible and will be implemented as performance standards.
- 17-113 Please refer to the mitigation monitoring and reporting program. None of the measures are voluntary. All mitigation measures are required to be implemented as described in previous responses to comments, including Response to Comment 17-106.
- 17-114 CEQA Guidelines Section 15126.4 addresses the requirement for mitigation. Mitigation cannot be deferred to a later date and, as a result, mitigation measures for potential significant impacts must address future actions by other responsible agencies. In this case, performance standards have been established in mitigation measures contained in the DEIR and the responsible agencies must implement these measures or prepare additional environmental documentation. The identified mitigation measures have been revised to provide for implementation by the agency implementing the Passons Boulevard grade separation.
- 17-115 Please see Response to Comment 17-114. The language of the mitigation measure has been revised to state that the measure shall be implemented by the agency implementing the Passons Boulevard grade separation. At the time this measure was developed, BNSF was the likely entity to oversee construction of the Passons Boulevard grade separation. However, the City of Pico Rivera is now likely to implement the Passons Boulevard grade separation, either on its own or in conjunction with the City of Santa Fe Springs. Accordingly, mitigation measure XII.c.1 of the Initial Study is feasible, was thoroughly discussed with the City and school district, and can fully offset the potential effects to the school from installing the Passons Boulevard grade separation.
- 17-116 The school district will determine whether property that can be offered is acceptable and feasible, as is appropriate. The reason for the either/or measure is that it is not yet clear whether and how much of the adjacent apartment property will have to be acquired in support of the Passons Boulevard grade separation. If acreage from the apartment site is available, then ownership of it can be transferred to the school district to fulfill this mitigation measure. If the apartment site is not available, then mitigation will be accomplished by providing additional school playground facilities. The criteria that will be used by the school district is the amount of equipment required to offset the loss of a portion of the school property for recreation purposes for the existing student population. Either measure can be implemented and both are acceptable to the Pico Rivera School District.



### 3.11.3 Deferral of Critical Environmental Analyses

An agency cannot defer critical environmental analyses or the formulation of mitigation measures until after project approval (see *Sundstrom v. County of Mendocino*). As further indicated in Section 15152(b) of the State CEQA Guidelines, the "tiering" of environmental analysis does not excuse the CEQA lead agency "from adequately analyzing reasonably foreseeable significant environmental effects of the project and does not justify deferring such analysis to a later tier EIR or negative declaration."

Deferring the preparation of mitigation measures until after the environmental process provides little assurance that either effective measures exist or that otherwise significant impacts can be reduced or eliminated. In a recent base realignment and closure (BRAC) action, the court (*Conservation Law Foundation, Inc. and Town of Newington v. United States Air Force*) found that the Air Force had violated the public disclosure requirements of NEPA by relying on post-EIS studies to satisfy its statutory obligations regarding air quality concerns.

Under CEQA, the lead agency is required to provide an impact analysis to the public "that encourages rather than impedes meaningful discussions on these important issues" (*Mountain Lion Coalition v. Fish and Game Commission*). A lead agency that pursues an approach that "releases a report for public consumption that hedges on important environmental considerations while deferring a more detailed analysis to [a later study] that is insulated from public review" (*Mountain Lion Coalition v. California Fish & Game Commission*) violates its CEQA obligations.

17-117

Rather than presenting definitive information that the project's potential impacts can be feasibly mitigated, the Lead Agency seeks to defer certain critical components of the environmental analysis to a later phase in the planning process, outside the light of public review provided under CEQA. For example, the PDEIR notes: "Future specific elements of the project have a potential to experience significant subsidence constraints. However, potential impacts from subsidence can be mitigated by implementation of the mitigation measures set forth in this document" (p. 4.5-14). Absent from the PDEIR, however, is any explanation or description of how "subsidence constraints" can be feasibly mitigated. In lieu of that information, the following mitigation measure is recommended by the Lead Agency: "Require future site-specific geotechnical investigations of proposed grade separations to include an assessment of potential impacts and mitigation measures related to expansive and reactive soils and liquefaction" (Mitigation Measure No. 4.5-9, p. 4.5-16).

Since the DPEIR contains no evidence that there are, in fact, available, cost-effective solutions to address this "significant" impact, there exists no means of knowing the types of solutions that may be brought forward, the implications of those corrective actions with regards to the design, construction, or operation of the proposed project, and the potential undisclosed environmental impacts that could occur should those corrective actions be implemented.

### 3.12 FAILURE TO ADDRESS A FULL RANGE OF PROJECT-RELATED IMPACTS

17-118

A number of issues are raised in the Initial Study and/or can be derived from information presented in the DPEIR that are never addressed therein. In the absence of a reasoned analysis of those issues, including the identification of mitigation measures where deemed appropriate, the DPEIR fails to fulfill its requirement as an informational document sufficient for informed decisionmaking.

***Responses to Comment Letter #17 (continued)***

- 17-117 Mitigation measure 4.5-9 (renumbered to read measure 4.5-10) applies to the subsidence issue. In addition, UBC design requirements, which are performance standards, must be implemented for potential subsidence impacts that are regional in character. Please note that the proposed project does not cause this potential impact, but is subject to regional subsidence as a regional design constraint associated with ongoing oil production. The design performance standard controlling subsidence issues is contained in mitigation measure 4.5-7, which requires the facility to withstand geotechnical hazards, including subsidence, with "minor non-structural" damage, with the facility remaining operational or safe or suitable for quick restoration of service. To clarify this issue, the subsidence constraint (reference to regional subsidence as an issue) will be specifically added to mitigation measures 4.5-7, 4.5-9 and renumbered mitigation measure 4.5-10.
- 17-118 This comment fails to identify the referenced "issues" and "information". The DEIR adequately analyzes a full range of project-related impacts and identifies all reasonable and feasible mitigation which may be necessary to mitigate those impacts to below a level of significance.

- 17-119     ■     **Redirected Traffic.** As indicated in the DPEIR, with project implementation, vehicle delays at existing grade crossings "would decrease to zero hours for all three peak hour periods" (p. 4.8-13). With the elimination of those delays, however, it is reasonable to assume that some motorists that would otherwise use another travel route would then elect to alter their travel pattern to take advantage of this unimpeded flow condition.
- Absent from the DPEIR, with the exception of the planned closure of Serapis Avenue, is any assessment whether and how the proposed grade crossings will affect existing travel patterns and whether those improvements, in and of themselves, would result in increased travel volumes along those seven roadways and along those streets tributary thereto. In addition, the DPEIR fails to examine how the proposed "detours" will impact all affected roadways during the up to 24-month period required to complete the proposed improvements.
- 17-120     ■     **Odors.** As indicated in the Initial Study, "[t]he proposed project could contribute to significant objectionable odors that could affect a significant number of people. Therefore, the issue of odor emissions will be evaluated as part of the EIR" (Initial Study, p. 26). No such analysis is, however, presented in the DPEIR.
- 17-121     ■     **Emergency Access.** The Initial Study states: "Short-term detours related to construction activities could interfere with emergency access or impair implementation of emergency response plans or emergency evacuation plans. This issue will be evaluated in the EIR" (Initial Study, p. 31). No such analysis is presented in the DPEIR.
- 17-122     ■     **Land Use.** Land use refers not only to those public policies outlined in each municipalities' general plan and zoning code but also to the physical characteristics of those uses that align the BNSF right-of-way. Absent from the DPEIR is any detailed analysis of those existing and reasonably foreseeable uses that exist in close proximity to the rail line and at each of the grade-separation project sites. In the absence of that information, the DPEIR presents false assumptions regarding the impacts of the proposed project on those uses (e.g., absence of vibration-sensitive land uses).
- 17-123     ■     **Additive Impacts.** Left unaddressed in the DPEIR are the potential additive impacts that will likely occur in the future as those improvements identified by the LAEDC and others, as deemed required to address future rail growth along the "BNSF corridor," are pursued. Those environmental effects include not only the additional construction-term impacts affecting proximal residences and businesses but the additional operational impacts associated with projected increases in freight and passenger rail traffic.

### 3.13 FAILURE TO REPRESENT THE DPEIR AS A SECOND-TIER DOCUMENT

As indicated in the RTP EIR: "Project-level analysis will be prepared by implementing agencies on a project-by-project basis" (RTP EIR, p. PD-2) and "the lead agencies for individual projects analyzed in this PEIR are required to prepare project level CEQA documents. The lead agencies for individual projects may use this PEIR as the basis of their regional and cumulative analysis. Moreover, it is the intent of SCAG that member agencies and others use the information contained within the PEIR in order to 'tier' subsequent environmental documentation of individual projects in the region" (RTP EIR, p. 6).

***Responses to Comment Letter #17 (continued)***

- 17-119 The DEIR contains an analysis of the future "with project conditions" which examines future traffic projections based on the installation of grade separations. At this time, there is no basis other than speculation, for concluding that circulation patterns and traffic flow would change as a result of implementing the grade separations. Background growth was factored into the circulation system analysis and this represents the only reliable, quantifiable method of making an impact forecast regarding the effect of the seven grade separations on the local circulation system. Any assumptions about large-scale changes in traffic flow on the circulation system would be speculative because there is no rational basis for reallocating trips from other roads to the future grade separated roads. Further, there is no evidence beyond speculation in this comment, that the predicted flow of traffic on the local circulation system will in fact be redirected as a result of installing the grade separations.
- 17-120 The Initial Study contains an error. The text for this section was in error and did not reflect the finding in the Checklist which showed the odor issue as having no impact. The project will not generate any odors that are not already part of the existing environmental setting. Specifically, the odor from gasoline and diesel fuel combustion is ubiquitous along the proposed third main track alignment. With some exceptions this occurs because the project alignment is mostly located within industrial areas (some residential areas obviously occur along this alignment). Since these short-term air emissions will be a small part of a very large background of vehicle combustion emissions, no adverse odor impact was envisioned as occurring. The text of the Initial Study will be revised to reflect this finding. Note that since rail operations will not change as a direct result of this project, no change in emissions and odors associated with long-term train operations is forecast to occur from project implementation. Further, elimination of idling at the current at-grade crossings will likely reduce combustion odors at each of the grade separations over the long-term.
- 17-121 The maintenance of emergency access is addressed as part of the discussion regarding emergency response plans or emergency evacuation plans on page 4.6-13 of the DEIR. Mitigation measure 4.6-4 specifically addresses emergency access for emergency response providers. A performance standard of maintaining access at a level sufficient to meet the needs of these emergency response providers is established in this mitigation measure. Please refer to the mitigation monitoring and reporting program, which requires emergency access requirements to be approved as part of a traffic management plan that must be approved by emergency response providers. Please also refer to mitigation measure 4.8-1, which requires the submittal of a construction traffic management plan. It is required that the emergency response access be included as part of this construction traffic management plan which, as stated above, must be reviewed and approved by emergency response providers in each jurisdiction where the flow of traffic may be affected by project construction activities. To further clarify this issue, emergency response access information in the construction traffic management plan will be more specifically incorporated into mitigation measure 4.6-4.

***Responses to Comment Letter #17 (continued)***

- 17-122 In response to this comment, following is an examination of the issues raised in the Initial Study Environmental Checklist Form regarding land use: First, is this project consistent with each jurisdiction's general plan? Yes, it is. The proposed project is also consistent and supportive of the RTP and the AQMP. Second, will this project cause a significant conflict with any land use plan, policy or regulation? No, it will not. Third, will the proposed project conflict with any habitat conservation plan? No, it will not. Perhaps more fundamentally, none of the uses at any location will be altered by the proposed project. The railroad tracks will remain in use in accordance with transportation land use designations in each general plan and efficiency and safety along the 14.7-mile stretch of the BSNF main line between Basta and Hobart, will be enhanced by the proposed project. The existing roadways, which incur significant daily delays due to at-grade crossings, will be improved and circulation will be improved into the long-term future. Finally, only a few existing land uses will be altered as a result of the proposed project and those alterations will occur as a result of acquisition of property to support the grade separations and one property to support the Third Main Track. All of those acquisitions are clearly identified in the DEIR. As indicated in previous responses to comments, the proposed project will not cause significant noise, vibration or air quality impacts or conflict with existing land uses, based on implementation of identified mitigation. The data in the DEIR supports the finding that no significant land use impacts or conflicts will result from implementing the proposed project.
- 17-123 Please see previous responses to comments, including Responses to Comments 17-5, 17-11, 17-23, 17-32 and 17-62, which demonstrate that no other projects are required to be considered along with the proposed project. Because no other projects are required to be considered along with the proposed project, "additive impacts" are not relevant to consideration of the DEIR.

"Tiering" is a concept that is integral to both the CEQA (e.g., 14 CCR 15152) and NEPA (e.g., 40 CFR 1502.20) process and serves to link earlier program-level analyses (such as that contained in the RTP EIR) with the more specific project-level investigations undertaken in furtherance of the overall development program (such as the DPEIR). Mitigation measures contained in the first tier document remain relevant to those projects identified in the RTP and addressed in the RTP EIR. As indicated in the RTP EIR: "Individual projects are preliminarily identified in the 2001 RTP Update; however, this PEIR is programmatic in nature and does not specifically analyze these projects. Project-level analyses will be prepared by implementing agencies on a project-by-project basis" (RTP EIR, p. PD-2).

17-124

The Lead Agency, however, never acknowledge the existence of either the RTP EIR and contain no description why tiering was neither considered in the document's preparation nor the rationale for its rejection when such an approach seems a logical transition from a regionalized assessment of need to a localized assessment of a project deemed, by the Lead Agency, to be consistent with the RTP (e.g., "no impact analysis relative to federal guidelines by virtue of project consistency with the RTP," p. 4.2-13).

### **3.14 FAILURE TO COMPLY WITH THE NATIONAL ENVIRONMENTAL POLICY ACT**

Portions of the proposed project (e.g., Valley View Avenue) have been included in the FSTIP, indicating the availability of federal funds to assist in project implementation. Projects that receive federal assistance (e.g., Federal Section 103 Crossing Improvement Program as administered by the Division of Rail) or require discretionary federal action are subject to compliance with NEPA, as codified in Section 4321 et seq. in Title 42 of the United States Code (USC), and the CEQ's "Regulations for Implementing the Provisions of the National Environmental Policy Act" (CEQ Regulations), codified in Title 40 of the Code of Federal Regulations (CFR). In addition, projects funded or assisted by the United States Department of Transportation (USDOT), the FRA, and/or by FHWA are subject to the NEPA requirements, regulations, and procedures of those agencies.

17-125

Although never stated, it can be assumed that the project's implementation will necessitate or involve the use of federal or federally encumbered funds. From statements in the DPEIR, funding for construction will be provided from an unspecified public source (e.g., "the actions that will be considered by the Department are whether to certify this EIR and approve the funding to construct the third main track component of this project," p. 2-2). It is unclear why the DPEIR would reference "[f]ederal guidelines for air quality impact assessment" (p. 4.2-12) unless the project were, in fact, also subject to NEPA compliance. As such, a separate NEPA process must be commenced prior to any formal commitment of federal funds.

CEQA mandates that "local agencies integrate the requirements of this division with planning and environmental review procedures otherwise required by law or by local practice so that all those procedures, to the maximum extent, run concurrently, rather than consecutively" (Section 21003[a], CEQA). As indicated under Section 15221 of the State CEQA Guidelines, "when a project will require compliance with both CEQA and NEPA, state or local agencies should use the EIS or finding of no significant impact rather than preparing an EIR or negative declaration if the following two conditions occur: (1) An EIS or finding of no significant impact will be prepared before an EIR or negative declaration would otherwise be completed for the project; and (2) The EIS or finding of no significant impact complies with the provisions of these guidelines."

***Responses to Comment Letter #17 (continued)***

- 17-124 Please see previous responses to comments, including Responses to Comments 17-5, 17-11, 17-23, 17-32 and 17-62, which demonstrate that no other projects are required to be considered along with the proposed project. This is a specific project being proposed for implementation by the Department of Transportation Division of Rail. The project components of the proposed project are being considered in a Program EIR because it is the appropriate CEQA document to address the impacts being considered by the Lead Agency and Responsible Agencies. The RTP EIR was not addressed because it did not contain any specific data regarding the implementation of the specific components of the project.
- 17-125 The statements in this comment are inaccurate. The source of funding for the project is State funds.

Alternatively, pursuant to Section 15222 of the State CEQA Guidelines, "if a lead agency finds that an EIS or finding of no significant impact for a project would not be prepared by the federal lead agency by the time when the lead agency will need to consider an EIR or negative declaration, the lead agency should try to prepare a combined EIR-EIS or negative declaration-finding of no significant impact. To avoid the need for the federal agency to prepare a separate document for the same project, the lead agency must involve the federal agency in the preparation of the joint document." As indicated in Section 15005 of the State CEQA Guidelines, "'must' or 'shall' identifies a mandatory element which all public agencies are required to follow."

Referencing Section 15006(i) and (j) of the State CEQA Guidelines, public agencies should reduce delays and paperwork by "integrating CEQA requirements with other environmental review and consulting requirements" and "eliminate duplication with federal procedures by providing for joint preparation of environmental documents with federal agencies." As further indicated in Section 15226 of the State CEQA Guidelines, "State and local agencies should cooperate with federal agencies to the fullest extent possible to reduce duplication between the California Environmental Quality Act and the National Environmental Policy Act. Such cooperation should, to the fullest extent possible, include: (a) Joint planning processes; (b) Joint environmental research and studies; (c) Joint public hearings; (d) Joint environmental documents."

17-126

Since both CEQA and NEPA encourages agencies to conduct joint processes, the Lead Agency's failure to prepare and process a joint CEQA/NEPA document is inconsistent with the declaration of State and federal environmental policies and procedures.

### **3.15 NEED TO AUGMENT AND RECIRCULATE THE DPEIR**

Referencing Section 15088.5 of the State CEQA Guidelines:

(a) A lead agency is required to recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the draft EIR for public review under Section 15087 but before certification. As used in this section, the term "information" can include changes in the project or environmental setting as well as additional data or other information. New information added to an EIR is not "significant" unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project's proponents have declined to implement. "Significant new information" requiring recirculation include, for example, a disclosure showing that: (1) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented. (2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance. (3) A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project's proponents decline to adopt it. (4) The draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.



***Responses to Comment Letter #17 (continued)***

17-126 The source of funding for the project is State funds.

**Third Main Track and Seven Grade Separation Projects**  
**Burlington Northern Santa Fe Railroad Company East-West Main Line Railroad Tracks**  
Draft Environmental Impact Report, SCH No. 2002041111

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17-127 As evidenced by the comments presented herein, based on the identified deficiencies in the DPEIR, the DPEIR "was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment was precluded." In formulating its response to these comments, the Lead Agency will be required to introduce "significant new information" within the meaning of Section 15088.5 of the State CEQA Guidelines. As such, the Lead Agency will be required to augment the DPEIR and recirculate a revised CEQA analysis for an additional round of public comments.

17-128 In order to ensure that SSDI remains abreast of the status of the Lead Agency's environmental compliance efforts, copies of all future environmental notices, announcements, and documents concerning the proposed project or any aspect thereof should be transmitted directly to: (1) Solid State Devices, Inc., 14830 Valley View Avenue, La Mirada, California 90638; and (2) GENTERRA Consultants, Inc., 15375 Barranca Parkway, Suite K-102, Irvine, California 92618.

***Responses to Comment Letter #17 (continued)***

- 17-127 The Lead Agency is required to recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the draft EIR for public review, but before certification (CEQA Guidelines Section 15088.5). "Significant new information" requiring recirculation includes information showing that (1) a new significant environmental impact will result from the project or from a new mitigation measure proposed to be implemented, (2) a substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance, (3) a feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project proponents decline to adopt it and (4) the DEIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded. See, *Laurel Heights Improvement Association v. Regents of University of California* (1993) 6 Cal.4th 11, 12. In the present case, no significant new information has arisen that alters the environmental analysis contained in the DEIR. Therefore, the Lead Agency is not required to recirculate the DEIR for further public review.
- 17-128 This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. In accordance with this request, future communication will be transmitted to SSDI as requested.



# CITY OF BUENA PARK

## DEPARTMENT OF COMMUNITY DEVELOPMENT

Rick Warsinski, Director

April 18, 2003

Tom Dodson  
Tom Dodson & Associates  
2150 North Arrowhead Avenue  
San Bernardino, California 92405

SUBJECT: DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT  
FOR THE THIRD MAIN TRACK AND GRADE SEPARATION  
PROJECT ON THE BURLINGTON NORTHERN SANTA FE  
RAILWAY COMPANY EAST-WEST MAIN RAILROAD  
TRACK

Dear Mr. Dodson:

18-1

Thank you for the previous opportunity to review an early version of the screencheck for the document referenced above. In our response letter, we requested that additional information be included in the final Program Environmental Impact Report. Although the Draft partially addresses these comments, we remain concerned about the impact of the project on adjacent residences.

18-2

Although the study is based on the assumption that the project will not directly increase rail traffic, the City continues to have concerns regarding placement of the third track along the north side of the existing Right of Way between Dale Street and the eastern city border, adjacent to sensitive residential development. Our concern is that the project includes purchasing part of an easement and placing the new track closer to existing homes. In general, Staff requests that analysis be included within the document about rail traffic effects on residents living near this area with respect to noise, as well as any corresponding mitigation attributable to the project.

In addition, the City of Buena Park Planning Division suggests the following:

18-3

- Detailed graphics be provided within the document clarifying the precise track locations, including easements, buffers/ walls, and distances from the nearest residential property line.

**RESPONSES TO COMMENTS**  
**LETTER #18**  
**CITY OF BUENA PARK**

18-1 This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented.

18-2 The City indicates a concern with potential noise impacts on the residences in the eastern portion of the City where property will be acquired to construct the third main track on the north side of the existing tracks. As the City is aware, the intent was to place the tracks on the south side of the existing tracks at this location, but conflicts with Federal Aviation Administration height requirements at the eastern end of the Fullerton Airport runway required a shift to the north side of the track. A recitation of a few facts will help to understand the potential impact to these residences.

First, after careful review of the 14.7 mile segment it was determined that the best points of noise measurement would be in Pico Rivera. This was done for two reasons: first, this location provided an opportunity to examine routine daily train operations, which consist of approximately 100 trains per day that are constant throughout the whole 14.7 mile segment; and second, it provided an opportunity to measure noise at a location with additional train activity associated with train assembly on a side track. A third location was also examined. Background noise levels for the average train operation condition is 74 dBA CNEL at 50 feet from the track. Because of the constant number of train operations along the whole segment, the 74-78 dBA CNEL background sound level is representative of the whole 14.7 mile alignment.

Given this background noise condition, the EIR evaluated the noise impact from constructing the third main track on a 15-foot center north of the existing two tracks in the area of concern to the City of Buena Park. The data on Table 4.9-5 of the EIR defines the noise increase as a result installing the new track. At the location of concern the noise increases by 1.0 dB at 50 feet from the tracks. The houses at this location are approximately 150 feet north of the proposed new track. Therefore, the noise increase at the residences would be less than 0.4 dBA. With a threshold of 1.5 dBA identified as being a significant change in noise when the sound level already exceeds the background noise standard, the 0.4 dBA change in noise is a less than significant change in the noise environment. To give the City a sense of the change in noise level, the 0.4 dB change represents less than 1/10,000,000 of the background sound energy and such a change is undetectable by the human ear.

18-3 The City of Buena Park Public Works Department has been provided a copy of the detailed engineering drawings for the area of concern. These drawings provide the detailed information regarding track locations, easements, buffers/walls and distances from the nearest residential property line requested in this comment. These drawings are far too detailed for a typical EIR, let alone a Program EIR. Additional sets of engineering drawings can be obtained upon request from Caltrans or BNSF through the Public Works Department.

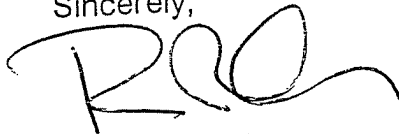
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18-4

- Site specific noise studies for the area between Beach Blvd. and the eastern City border. Because the most recent noise studies in the area (Lakeside Environmental Impact Report 1997) indicate that the noise readings adjacent to the existing tracks are at or within one half decibel of the maximum ambient noise level for residential developments, we feel that the predicted noise increase may exceed the maximum allowable noise levels.

We look forward to reviewing the final document and thank you for your time and consideration. Please feel free to call me or Jay Saltzberg, Planning Manager, if you have any questions or concerns regarding this request.

Sincerely,



Rick Warsinski  
Director of Community Development

*Responses to Comment Letter #18 (continued)*

- 18-4 Please refer to response to comment 18-2. Because the existing train noise represents the greatest amount of sound energy over the 24-hour period, it will dominate the noise environment, even though aircraft from the adjacent airport will add a small increment to the overall background sound level. The 74-78 dBA CNEL value is consistent with the 72 dBA value identified in the Lakeside EIR which was completed in 1997 and is probably more accurate because it was based on a 24-hour continuous noise monitoring program rather than random measurements over a 24-hour period.



Gray Davis  
Governor

COMMENT LETTER #19

STATE OF CALIFORNIA  
Governor's Office of Planning and Research  
State Clearinghouse



Tal Finney  
Interim Director

**ACKNOWLEDGEMENT OF RECEIPT**

DATE: April 10, 2003

TO: Gary Iverson  
Department of Transportation, District 7  
120 South Spring Street  
Los Angeles, CA 90012

RE: Third Main Track and Seven Grade Separations Project, BNSF  
SCH#: 2002041111

This is to acknowledge that the State Clearinghouse has received your environmental document for state review. The review period assigned by the State Clearinghouse is:

Review Start Date: April 4, 2003  
Review End Date: May 19, 2003

We have distributed your document to the following agencies and departments:

Air Resources Board, Transportation Projects  
California Highway Patrol  
Caltrans, Division of Aeronautics  
Department of Conservation  
Department of Fish and Game, Region 5  
Department of Housing and Community Development  
Department of Parks and Recreation  
Department of Toxic Substances Control  
Native American Heritage Commission  
Office of Historic Preservation  
Public Utilities Commission  
Regional Water Quality Control Board, Region 8  
Resources Agency  
State Lands Commission  
State Water Resources Control Board, Division of Water Quality

The State Clearinghouse will provide a closing letter with any state agency comments to your attention on the date following the close of the review period.

Thank you for your participation in the State Clearinghouse review process.



**RESPONSES TO COMMENTS**  
**LETTER #19**  
**OFFICE OF PLANNING AND RESEARCH**  
**STATE CLEARINGHOUSE**

- 19-1      This letter is acknowledgment by the State Clearinghouse that the environmental document (SCH#2002041111) was received by the State for public review. It also identifies the State agencies that were provided copies of the environmental document for public review and comment. No specific response is required to this letter since it does not raise any environmental issues.



## FULLERTON REDEVELOPMENT AGENCY

303 W. Commonwealth Avenue, Fullerton, CA 92832-1775

Website: [www.ci.fullerton.ca.us](http://www.ci.fullerton.ca.us)

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April 24, 2003

Mr. Gary Iverson, Office Chief  
California Department of Transportation  
District 7  
120 S. Spring Street, MS 16A  
Los Angeles, CA 90012

Dear Mr. Iverson:

We have reviewed the Draft Environmental Impact Report (DEIR) for the Third Main Track and Grade Separation Project, SCH2002041111. The comments from the City of Fullerton are as follows:

- 20-1 1. The project ends at Basta in Fullerton. Figures 3-2f and 3-2g give the impression that the project extends through Fullerton to State College Blvd. Please note the location of the end limit of the project on Figure 3-2f.
- 20-2 2. The discussion of Hydrology and Drainage does not indicate how the current drainage problems on the south side of the railroad right-of-way extending approximately 2,500 feet east from Dale Street will be solved. The project itself may solve the problem or it may increase the problem.
- Currently, there is an earthen channel within the railroad right-of-way which is inadequate to handle drainage. Adjacent properties on the south have, in the past, suffered flooding of both property and buildings. If the channel is eliminated to elevate the new third track, there will be no place for runoff to go, since the properties in this area drain to the north. If the channel will remain because there is sufficient room for the third track, the problem will still exist.
- The project should include any improvements to assure proper drainage of this area. Proposed solutions should be submitted to the City Engineer, City of Fullerton, at the above address, for review.
- 20-3 3. While the DEIR is entitled Third Main Track and Grade Separation Project, it is clearly stated that no funding is available for the grade separations. It would appear that grade separations are a key mitigating factor in reducing traffic congestion and air pollution on the affected local streets and highways. A grade separation funding plan and construction schedule should be included with the approval of this project.



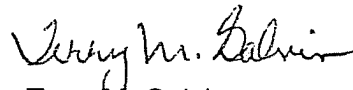
**RESPONSES TO COMMENTS**  
**LETTER #20**  
**FULLERTON REDEVELOPMENT AGENCY**

- 20-1      Figure 3-2f has been revised to show the actual terminus for the project at Basta in Fullerton instead of State College Boulevard.
- 20-2      All drainage improvements will be constructed on the north side of the tracks in the referenced area. The existing drainage channel on the south side of the tracks will remain unchanged by the project. Drainage areas and the percent of impervious surface contributing to the drainage area will also remain unchanged as a result of the proposed project. There is no nexus between the proposed project and this drainage issue, so it has not been addressed as part of the proposed project. The City needs to directly approach BNSF outside of this process regarding a possible mutually acceptable solution to this problem and the means to fund a potential solution.
- 20-3      This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. When this project was initiated, approximately two years ago, all or most of the funding was in place for two of the grade separations and funding appeared to be feasible for the other grade separations over a several year period. Some, not all, of the available funding has been withdrawn and additional funds are currently being sought. Because of the present lack of funding, it is not possible to provide any funding or construction plans for the proposed grade separations. The Cities of Pico Rivera, Santa Fe Springs and La Mirada should be contacted directly to discuss the current status of funding and possible construction dates for the grade separations.

Mr. Gary Iverson, Office Chief  
April 24, 2003, Page 2

Thank you for the opportunity to submit our comments. If you have any questions, please call me at (714) 738-6881.

Sincerely,

A handwritten signature in black ink, appearing to read "Terry M. Galvin". The signature is fluid and cursive, with the first name "Terry" being more prominent.

Terry M. Galvin  
Redevelopment Operations Manager

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## **PUBLIC MEETING COMMENTS**

**RESPONSES TO COMMENTS  
PUBLIC MEETING COMMENTS  
CITY OF BUENA PARK  
APRIL 29, 2003**

1. Joni Talley comments: Is this a done deal? What is the purpose of us voicing our opinion?

Response: Tom Dodson at the meeting explained the purpose of this meeting and the process in which the document has to go through. In summary, the purpose of the public meeting was not to express any opinion about approval or denial of the proposed project identified in the Draft PEIR. The purpose is to receive comments on the content of the Draft PEIR to ensure that all pertinent information required to make a final decision on whether to implement the project. The decision will be made at a later date by Caltrans Division of Rail.

2. Joni Talley comment: Who is funding this project?

Response: Ken Galt at the meeting explained that Caltrans is funding the project according to State objectives providing alternatives to public transportation in accordance to the statewide goals of transportation.

3. Joni Talley comment: I am opposed to the trains being located any closer to my home. I just bought a home in the University Gables Community. At our last monthly meeting, it was mentioned that the owners of the railroad are proposing adding a third track on the north side. Too much dust and noise pollution would be the result. Also too much vibration. Is this inevitable?

Response: Tom Dodson at the meeting explained that the tracks will be one foot closer to Ms. Talley's home after construction is completed. This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. The comment regarding dust, noise pollution and vibration is noted. The detailed discussion of dust issues is provided in Subchapter 4.2 and the discussion of noise and vibration is provided in Subchapter 4.9 of the Draft PEIR.

4. Daphne McLean comments: The exhaust comes into my home, more from some trains than others. Is there any way you can put a dome on the wall so that we don't get the noise and pollution exhaust? Some trains seem to have more exhaust than other's. Why?

Response: John Fleming at the meeting stated that each train has to meet federal standards for air emissions. This comment references existing operations that residents already experience. Particulate emissions from burning diesel fuel do vary depending upon whether a train is "at speed" or is accelerating, otherwise the trains should all meet the federal standard. The proposed project will not cause a "significant" change in the noise and pollution exhaust already impacting the project alignment. Therefore, no sound wall is proposed. Please refer to the sound wall technical study provided in Volume 2 of the Draft PEIR. This study, "Noise Barrier Analysis," indicates that in order to attenuate sound levels to acceptable residential levels, a sound wall of 20-30 feet would have to be installed. Because the proposed project will not

***Responses to Public Meeting Comments, City of Buena Park (continued)***

cause any change in train operations and will not cause a significant change in noise or vibration levels (the project's impact is essentially undetectable by humans), no sound wall will be installed in by this project.

5. Daphne McLean comment: Can you lower the train?

Response: John Fleming explained at the meeting that it is very expensive to lower the train; it is not cost effective. Further, that is not part of the proposed project. If it were considered as an alternative, the impacts of digging the trench necessary to lower the train tracks would cause significant environmental impacts during and construction and over the long-term even though noise would be reduced air emissions would now be at ground level and substantial areas would have to be acquired along the track alignment to provide sufficient area to install a lowered set of tracks. Thus, even though it might be technically feasible to lower the train tracks, the impacts of doing so would cause substantially greater environmental effects.

6. Daphne McLean comment: How about a dome type windshield?

Response: John Fleming explained that he had never heard of putting a dome on a wall to decrease noise or pollution. Nor have we tried this idea. Please refer to response to comment #4 above for additional information. Tom Dodson asked Ken Galt if there are funds set aside to address this question? Ken responded: No. On the federal level more efficient trains are being built. Electric trains have there own set of problems. Initially we may solve your problem but it may cause problems in another areas.

7. Daphne McLean comments: We are in a floodplain. Will this project affect this?

Response: John Fleming explained that the proposed project will not increase the drainage or the vibration. Adequate drainage facilities will be provided for the new rail project to ensure that it does not cause any flood hazards. Detailed drainage plans have been developed all along the third main track and they have been summarized in the Draft PEIR. The actual drainage plans were provided for review and are available as part of the Draft PEIR.

8. Daphne McLean comment: In L.A. the tracks are grade separated with a dome on top.

Response: John Fleming explained that this may be something to look at in the future. In further response, this option is not considered to be an alternative for the proposed project for the reasons outlined above in response to comment #5.

9. Daphne McLean comment: Where was the vibration measured, what city or location?

Response: Tom Dodson explained that the noise measurements were taken in Pico Rivera. However, the vibration effects were modeled using established modeling procedures for railroads. This information is summarized in Subchapter 4.9 of the Draft PEIR and provided in more detail in Subchapter 8.5 of the Draft PEIR.

***Responses to Public Meeting Comments, City of Buena Park (continued)***

10. Rosa Newton-Mares comments: Will the third main track increase the vibration in University Gables? We are in a flood zone and since Metrolink has changed the grading in the area, it seems that the vibration has increased.

Response: Adjacent to University Gables the trains will be one foot closer than at present. The noise and vibration effect from this small change in track location will not be audible or noticeable to humans. The comment regarding changes in vibration due to Metrolink is noted and will be forwarded to the Department of Transportation decision-makers for consideration before project approval is made to allow the proposed project to be implemented. This information should also be made available to Metrolink, either directly or through the City.

11. Sammy Alqais comment: Why not add more height to the existing walls for the community? This might eliminate some of the noise and pollution.

Response: Tom Dodson explained that the reason the project will not alter the height of the existing walls is that the data show there is no audible change in the noise from implementing the proposed project. Because of the existing adverse noise setting, the local residents or the University may choose to modify the wall height.

12. Sammy Alqais comment: Any chance that the City of Buena Park or the Railroad company be considerate to build a higher wall or increase the height of the existing sound wall?

Response: The proposed third rail project component is being funded by the State Department of Transportation. Unless a nexus (connection) can be demonstrated between the proposed project and a significant adverse impact, public funds cannot be used to fund an improvement, such as a modified sound wall. What this means is that public funds cannot be used to correct an existing noise problem, this is probably a responsibility of the builders of the subdivision.

13. Rosa Newton-Mares comment: How do you measure the noise level and after your have looked at the data, what measuring level do you use?

Response: Tom Dodson explained that according to our measurements local residents will not notice a change in the noise level. Subchapters 4.9 and 8.5 of the Draft PEIR provide the detailed information requested in this comment. Simply stated, a noise monitoring device was set up at three different locations adjacent to the existing BNSF main tracks and measured sound levels over a 24-hour period. The 24-hour background integrated noise level ranged between 74 and 78 dBA CNEL community noise level. This background sound level is compared to the significance threshold and determined to be above the 65 dBA CNEL level considered suitable for a noise sensitive use such as a residence. However, the proposed third main track will result in modifying this background sound level by less than 1 decibel adjacent to the main line track corridor. Since this change is inaudible to the human ear, the impact of this project was determined to cause a less than significant change in the noise environment adjacent to the tracks.



***Responses to Public Meeting Comments, City of Buena Park (continued)***

14. Deborah Diep comment: The community of University Gables knew about the trains and the Metrolink before they moved in but the sound walls vary in different areas. Who is responsible for judging the height of the wall?

Response: Councilman Art Brown of the City of Buena Park explained that Cal State Fullerton was the builder of the subdivision. They are responsible, but he will go check the data. The entity that obtained or granted the entitlements to build the subdivision should have included sufficient setbacks or a sound wall of sufficient height to provide an acceptable noise environment in the University Gables residences. It is that entity that should be approached to solve the noise problems associated with proximity to existing rail operations.

15. Cliff Cramp comment: We all knew about Metrolink the wall was the same on both sides. Areas on the south side of the fence are only 4 feet high, who is responsible for the grading?

Response: Councilman Art Brown that the Metrolink site will be graded down and you can go to the City Public Works Department and see what elevation it will be when the project is completed.

16. Sammy Alqais commented: The Metrolink grading has nothing to do with the third main track?

Response: Tom Dodson explained that the Metrolink project is not part of this project and will be carried out after the third main track is installed.

17. Cliff Cramp comment: Will all the tracks be replaced when they put in the third one? Will they flatten out the grade? The train really leans in that area.

Response: John Fleming explained that the pitch of the tracks will not change. The super elevation is incorporated into the tracks so that the train will not fall off the track going around the curve at the location of concern. Because of the unusual circumstances at this curve location, all three tracks will be reconstructed to allow them to be installed within the right-of-way. The grade of all three tracks cannot be flatted as explained by Mr. Fleming due to the need to match the track design with design speeds through this segment of the main line corridor.

18. Deborah Diep comment: What procedure was done to let the people know this meeting was happening?

Response: Tom Dodson explained at the meeting that notices were provided in all of the local newspapers and the cities provided local notification of the meeting.

19. Deborah Diep comment: How about adding trees and shrubs on the south side to cut the noise?

Response: No landscaping can be installed within BNSF right-of-way. Landscaping cannot be placed within the BNSF right-of-way by regulation, which requires control of vegetation adjacent to tracks to minimize safety hazards. Individual

***Responses to Public Meeting Comments, City of Buena Park (continued)***

homeowners could install vegetation on their property line adjacent to the track to reduce noise. However, note that even thick vegetation provides only a few decibels of sound attenuation.

20. Deborah Diep comment: The wall at University Gables - south side is only 4 feet tall at the low point - does not provide privacy, noise reduction or decrease air pollution.

Response: This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. Please refer to response to comment #14 above for additional information regarding this issue.

21. Deborah Diep comment: People on the track side hop the wall and walk through University Gables.

Response: John Fleming explained at the meeting that during the project construction BNSF will have security patrols to control trespass from the track corridor.

22. Chad Briggs comment: The University Gables Association would appreciate one hard copy of both volumes of the Draft EIR.

Response: A copy is to made available to the Association through the City of Buena Park.

23. Steve Labra comment: Did not sign in or did he fill out a comment card. His verbal comment stated that Mr. Dodson said that as the number of trains increase the noise would increase. Who is responsible for the number of trains and the amount of noise the increase of train traffic will make?

Response: Ken Galt explained at the meeting that the State and the County are not in control of the number of trains that use the corridor. The railroad controls the tracks and they have to provide capacity for all trains that choose to use the corridor under interstate commerce regulations.

24. Rose Newton-Mares comments: You are adding decibels by adding more tracks and trains.

Response: Tom Dodson explained at the meeting that adding tracks does not necessarily result in adding decibels. Depending on location relative to the new track, closer or further, some additional noise may occur at that location, i.e. the project would be adding sound. But this increase is not enough to be detected by the human ear. On the site away from the new track, sound levels would actually decrease relative to the existing environmental setting. This project will not add trains, but new trains would add to the noise energy within the train corridor. However, the increase in sound would be much less than might be imagined because it would require a doubling of train traffic (from 100 to 200 trains) to increase the CNEL sound level by 5 decibels.

25. Kaylene Carr comments: I can't open my windows because of the pollution - I have allergies because of the train emissions. I only live a few feet from the wall and the train - vibration concerns me - we have trouble with people walking on the track - will there be safety measures taken during the construction - I am concerned about my privacy and safety - you

***Responses to Public Meeting Comments, City of Buena Park (continued)***

can answer later. Very concerned about the vibration it seems to have increased since the Metrolink project started. Will this project increase the vibration?

Response: This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. Please refer to response to comment #21 above. Security patrols will be carried out during construction to control theft and illegal trespass. Vibration change related to installing the third main track will be unmeasurable because the new tracks will only be 1 foot closer than present conditions which will not measurably change vibration or noise at the nearest residences.

26. Kaylene Carr comment: What guarantee is there that train traffic will not increase?

Response: There is no guarantee that train traffic will not increase in the future. Such increase in train traffic will be in response to commercial demand for freight and passenger movement in the future. Also, train traffic can increase now without implementation of the proposed project. Rail traffic is required to be accommodated where capacity exists in order to meet interstate commerce regulations.

27. Kaylene Carr comment: What measures would be taken to ensure privacy and safety during construction?

Response: Please refer to response to comment #25. Security patrols will be used to control illegal activities during construction.

28. Kaylene Carr comment: Near University Gables how is the traffic on the track going to flow?

Response: The point of this comment is not totally clear. However, after the third main track is installed, rail traffic will be controlled by the existing dispatch system and all three tracks can be used for west or east bound train traffic based on track availability at any given time.

29. Kaylene Carr comment: How will it change compared to how it is now?

Response: Train traffic is presently assigned to one of the two existing tracks by a dispatcher based on availability of a track at the time a train requests to use it. This circumstance will not change other than another track will be available for use.

30. Three trains, moving at 40 mph each all on the track near University Gables at the same time will increase the noise and vibration significantly and increase the deterioration of the structure of my house.

Response: This comment was given to the project noise/vibration consultant, Hans Giroux, to address. He responded as follows: Vibration effects of multiple trains passing a given point are presumed to add logarithmically similarly to noise levels in the air. The mathematical expression for “n” simultaneous trains passing a given point is as follows (VdB is vibration velocity, re: 1-micro-inch/second):

*Responses to Public Meeting Comments, City of Buena Park (continued)*

$$VdB(n) = VdB(1) + 10 \log(n)$$

For two trains in simultaneous passage, the increase in vibration level is +3VdB. For three simultaneous trains, the increase is +5VdB. Close to the tracks, multiple passages may have a perceptible impact to an observer. Farther from the tracks, neither the vibration from a single train, or from several simultaneous trains, is perceptible.

The probability of multiple trains passing a given point is presumed to be quasi-random. For existing conditions, 50 trains were assumed traveling in each direction. A duration of one minute of passage per train (longer for a freight and shorter for passenger service) was assumed. The probability of two trains passing a single point is calculated by:

$$P(I \text{ and } II) = P(I) * P(II)$$

At 50 minutes of passage, P (I) and P (II) are 50/1,440, or p.0347. The probability of two trains passing a given spot is 0.0012, or 1.7 minutes per day. From the 50 trains each way, two trains per day each way will pass a given point simultaneously.

The addition of a third track creates a possibility of three simultaneous passages. However, the likelihood is very small. The probability of a single passage is 33.3/1,440, or 0.0231. The joint probability of three simultaneous passages is  $(0.0231)^3$ , or 0.000012. This translates into 0.018 minutes per day, or once every 56 days. The additional of a third track negligibly increases the potential for any substantial change in vibration from existing conditions.

31. Sammy Alqais comment: On the south side there is more room on the south side. Move the tracks in that direction.

Response: In effect, the tracks are being relocated to the south within the BNSF right-of-way in the vicinity of University Gables. This is because of the curve at this location in conjunction with the existing flood control channel. Unlike other locations where the alignment is proposed to be shifted a total of 15 feet (on center with the existing tracks) either to the north or south, the net movement of the tracks next to University Gables is proposed to be one foot to the north. As indicated, this is necessitated by the specific circumstances at this location.

32. Deborah Diep comment: Because there will be an added track, if you add a train track we will have more trains and if the speed of these trains increases the vibration will increase with the number of the trains and that will increase the vibration in my home.

Response: There is no proposal to increase the number of trains in conjunction with the proposed project. As described in the Draft PEIR, Chapter 3, this project is designed to enhance the flow of existing trains, not add new trains. Any new trains in the future will be generated as a result of commercial demand to move more freight or passengers through this corridor. These trains will either be accommodated by the existing two tracks in this corridor or other means of moving goods and people will be used instead. The speed of trains (70 for

***Responses to Public Meeting Comments, City of Buena Park (continued)***

freight and 78 for passenger) is already established for this rail corridor and it will not be altered by the proposed project. Vibrations in the vicinity of Dale Street due to the proposed project may change by an imperceptible amount based on the location of the new track, but it is not forecast to be a significant increase.

33. Kaylene Carr comment: Can they put a speed limit on the train's is there a way we can control this?

Response: No. Ken Galt explained at the meeting that the federal government controls the speed of trains and local government has no control over train speeds along individual segments of a track corridor.

34. Kaylene Carr comment: Can you slow the trains down?

Response: No. As indicated above, Ken Galt explained that trains could not be slowed down due to interstate liability. An individual can contact the railroad or the federal government regarding the maximum speeds which is currently 78 for passenger trains and 70 for freight trains. On the curve it is 60 or 65 mph?

35. Sammy Alqais comment: What is the max. speed limit on a fully loaded train through a residential area?

Response: Ken Galt explained at the meeting that the maximum speed of a fully loaded train through the area of concern is about 50 mph because of curves. The absolute maximum for a fully loaded freight train is 70 mph.

36. Kaylene Carr comment: Will your grading change the vibration - can we go to where you took the vibrations in Pico to see and understand how much the vibration is?

Response: Tom Dodson provided directions to the location where the noise measurements were conducted. The vibration forecast is based on a model used by the federal government to estimate vibrations based on train operations and speed. Please refer to Subchapter 8.5 of the Draft PEIR for more detailed data. As noted in this Subchapter and as summarized in Subchapter 4.9, vibration will be changed by an imperceptible amount based on the proposed location of the third main track in the vicinity of the area of concern.

**RESPONSES TO COMMENTS  
PUBLIC MEETING COMMENTS  
CITY OF SANTA FE SPRINGS  
APRIL 30, 2003**

1. Mr. Rizias comments: Vibration and noise - we here this all the time and the noise is loud and the vibration is terrible. Now with more trains is it possible for them to build a wall to cut the noise and vibration?

Response: Tom Dodson explained at the meeting that this project will not have a significant impact on the existing background vibration or sound along the BNSF main rail corridor. Therefore, there is no nexus or justification for the proposed project to install a sound wall or other vibration mechanism. The proposed project will not cause additional trains to use this corridor. Train traffic is generated by demand for additional freight and passengers and this project will not cause generation of additional train trips. Please refer to the project description contained in Chapter 3 of the Draft EIR. In addition to Mr. Dodson's response, Ken Galt noted that as the grade separations are installed, it will no longer be necessary for the trains to blow their horns. This will eliminate the loudest sound source from the rail corridor which will reduce overall noise in the vicinity of the grade separation sites.

2. Mr. Rizias comment: That was my other questions - about the horn blowing?

Response: Ken Galt again explained at the meeting that the grade separation components of this project will eliminate the need for blowing of the train whistles.

3. Gloria Salazar comments: Is my house going to be taken and do I have a choice if I do not want my house to be taken?

Response: Tom Dodson explained at the meeting that if the project is approved and your house is within the footprint of one of the grade separations, then, yes it will be taken. However, it may be another 5 or 10 years before funding is approved for a specific grade separation project and property acquisition cannot occur until the local jurisdiction approves the grade separation contract, which would include acquisition of those properties essential to installing the grade separation. Please refer to the graphics in Chapter 3 of the Draft PEIR which identifies those properties that will have to be acquired for each grade separation.

4. Gloria Salazar comment: Well that is part of the problem. We are at stand still because we do not know what to do more improvements or what.

Response: John Fleming explained at the meeting that Ms. Salazar's home will be appraised and the house will be appraised with the upgrades. Therefore, you should not stop making improvements that you want for the foreseeable future.

***Responses to Public Meeting Comments, City of Santa Fe Springs (continued)***

5. Gloria Salazar comment: I do not want to leave.

Response: This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. Ken Galt explained that the relocation act insures that you will be paid fair market value; we will pay for all the costs of your move and relocation. We will provide you with all of this information in a written response. Pioneer is the lowest priority and it is anticipated that it will be the last graded separation to be built under this project. Please refer to Attachment 3 for additional information which is a summary of Caltrans acquisition procedures.

6. Gloria Salazar comment: How far in advance will the homeowners be notified before you take my home?

Response: Marina Sueiro explained at the meeting that if everything goes well, it will be 2008-09 when the Pioneer grade separation is funded for implementation. You will be notified at that time. We will not contact you until about 2008-09. When we know the Pioneer grade separation is ready to proceed, we will immediately notify you and that is typically a year or two before the start of the project in your area. We will be sure to follow all of the rules and regulations surrounding the relocation.

7. Bob Salazar comment: (son or Gloria Salazar) This is causing a lot of stress on my parents.

Response: This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. Ken Galt responded at the meeting that the agencies will assist you through the relocation process with as much dignity as we can.

8. Miguel Nuno comment: We live in the same neighborhood and we have the same problem - it is torture to keep doing stuff, we are sad that we have to move.

Response: Tom Dodson responded at the meeting that Mr. Nuno should fill out a comment card and give us your thoughts and questions. It is difficult to deal with delays in project implementation, but the goal at this time is to keep all of the affected parties informed to the best of our ability. Informing the public is the objective of the CEQA process and by implementing it as we have, you and other residents will not be surprised and can begin planning how to adapt to this proposed grade separation at Pioneer Avenue.

9. Miguel Nuno comment: How do we fill this out and what happens to it?

Response: Tom Dodson explained that the cards are on the desk. Just fill it out with your comments and it will be entered into the final document with responses that address your concerns to the best of our ability.

***Responses to Public Meeting Comments, City of Santa Fe Springs (continued)***

10. Miguel Nuno comment:

- a. What is the relocation act?
- b. Where to go?
- c. Who to ask?
- d. Who will help when we have to move?
- e. Why city didn't ask people that will be affected with this project?
- f. Who is funding this project?

Response:

- a. The relocation act is actually termed the "Uniform Relocation Assistance and Real Property Acquisition Policies Act." Attachment 3 to these responses provides a good summary of its content.
- b. Attachment 3 describes general contacts, but the City will be the first point of contact because it intends to implement the grade separation project. Your local council person or someone like Marina Sueiro can serve as a good point of contact.
- c. See response to b above.
- d. See response to b above.
- e. This is a complicated question. Fundamentally, the City and other agencies envisioned a grade separation at the Pioneer Avenue/railroad track intersection to provide better public safety and circulation. Once a decision is made to consider a grade separation, the project must be engineered. It is the engineering design that identifies whether additional property outside of the existing road right-of-way will need to be acquired. Thus, the engineered plans for the Pioneer grade separation determined that certain additional properties would have to be acquired. Once determined, the public was notified (the City of Santa Fe Springs made an extraordinary effort to involve local citizens) and the Draft PEIR was prepared and published for public review and comment. In this manner you and others have been notified that if the Pioneer grade separation is implemented, your property will be affected. Most important, a final decision to construct this grade separation has not been made by the City. It cannot make such a decision until funding is available and until the City Council awards a contract to construct this facility. In essence you are being asked and presented an opportunity to voice your opinion which the Council will weigh with the public benefits that will result from installing the grade separation when it makes a final decision to proceed or not proceed with the project. Thus, you have an opportunity to make your opinion known because of the process outlined above.
- f. As indicated by Marina Sueiro in response to comment #6 above, the funds are not yet in place and it will take several years before the funding can be obtained for the proposed Pioneer grade separation. If funding cannot be obtained, the grade separation will not be installed.

11. Bob Salazar comment: We have lived here for 33 years what is the advantage of the project to us?



***Responses to Public Meeting Comments, City of Santa Fe Springs (continued)***

- Response: Please refer to the previous response. The benefit to you and the community from implementing the Pioneer grade separation is elimination of delays due to passage of trains through the existing at grade crossing at Pioneer. It will also substantially enhance safety for both train and vehicles because their operations will be separated and the potential for accidents between trains and vehicles will be eliminated. Another benefit will be the elimination of horn blowing by trains which must blow their horns as a warning when entering at grade crossings.
12. Bob Salazar comment: If this is going to be an underpass why will it affect these properties?
- Response: Steve Metro explained at the meeting that there will be impacts on certain property, including Mr. Salazar's house, in order to construct the underpass. The extent of impact is such that acquiring the property is the only way to protect the occupants from exposure to such impacts.
13. Bob Salazar comment: How about the people, not the city or transportation?
- Response: Steve Metro explained that the impact to the homes was severe especially regarding future access. Also, please refer to response to comment 10.e above. Because the process has worked to inform you and other residents that will be affected by the Pioneer grade separation, you have the opportunity to inform the decision-makers regarding your opinion that the project does not justify taking individual homes. The decision-makers will weigh this opinion and input against the benefits outlined above and render a final decision.
14. Bob Salazar comment: By the way you are talking you are eliminating a whole group of homes?
- Response: Steve Metro explained that yes, seven homes, will be affected. The engineers designing the project have tried to find a way to keep the homes and accommodate pedestrians. We looked at a whole range of alternatives and the alternative selected has the least impact on the community.
15. Bob Salazar comment: It is important to improve the community but what about the families?
- Response: Please refer to response to comment #13 above.
16. Gloria Salazar comments:
- a. The house at 8625 South Pioneer, Whittier, CA 90606 will it be involved in acquisitions?
  - b. How will relocation affect our property?
  - c. I do not wish to relocate, period.
  - d. This is a great financial burden and it will create a new mortgage. Retirement concerns are relative.
  - e. I do not want to relocate!
  - f. What are the disclosures to prospective buyers?

***Responses to Public Meeting Comments, City of Santa Fe Springs (continued)***

Responses:

- a. Yes, the house at 8625 South Pioneer is proposed for acquisition. Please refer to Figure 3-5c of the Draft PEIR.
  - b. If the Pioneer grade separation component of the project is funded and approved for implementation, the City of Santa Fe Springs (or other agency) will make an offer on this property. Once agreement is reached on the value of the home, relocation assistance, including funds to move the occupant's goods, will be provided in general accordance with the procedures outlined in Attachment 3.
  - c. This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. See also responses to comments #5 and #10.f.
  - d. This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. The acquisition procedure is designed to minimize the problems that are identified in this comment, including finding a new residence of comparable quality. Also, please refer to Attachment 3.
  - e. This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. See also responses to comments #5 and #10.f.
  - f. Please refer to Attachment 3 for a discussion of disclosures in addition to the information provided in responses to comments #5 and #10.f.
17. Ronald G. Lawrence II comment: How many homes will be taken in the entire project?
- Response: Tom Dodson indicated that seven homes at Pioneer and six homes at Passons in Pico Rivera are identified for acquisition. In addition, about as many as 90 apartment units may have to be acquired in conjunction with the Passons Boulevard grade separation project component.
18. Ronald G. Lawrence II comment: Besides residential, will there be other property?
- Response: Some commercial properties will need to be acquired in the City of Pico Rivera at the Passons Boulevard grade separation.
19. Frank McNiff comment: What is your best estimation on when the project will start at Valley View?
- Response: Marina Sueiro explained that the Valley View grade separation was fully funded before the State's budget crisis, but because of budget cuts it may take a while to accumulate sufficient funds. The City of Santa Fe Springs is trying very hard to acquire the necessary funding and would like to initiate construction by the end of 2004.

***Responses to Public Meeting Comments, City of Santa Fe Springs (continued)***

20 Ronald G. Lawrence II comment: What is the City's position?

Response: Marina Sueiro explained that the City supports this project very much because it will improve the community. We are aware of the hardships on some of the members of the community. This project is for the greater good of the community and we are assuring you that even though you may have to move we are promising to help you and pay the fair market price. We will be there with you through the process.

21. Julieta Diaz comments: It seems that we are in limbo if this happens. Will our property tax go up?

Response: Tom Dodson explained that property taxes will not go up because of this project, only because of routine reassessment factors, if at all.

22. Miguel Nuno comment: You say you are going to assist, who is we?

Response: Tom Dodson explained that each component of the project has a specific sponsor for implementation as part of the overall program. The project components that may require assistance to property owners due to acquisition include: the Parsons grade separation; Pioneer grade separation; and Rosecrans and Marquardt grade separation. Some open space property in Buena Park (east of the Dale Street overpass) will also be acquired in support of the third main track project component, but this site is unoccupied and will not required relocation assistance.

23. Miguel Nuno comment: We will have a contact person at that time?

Response: Tom Dodson explained that yes there will be a contact person, but until funding is available for the grade separations the actual point of contact cannot be identified.

24. James Koopmen comments: Two questions; I understand that some homes are on the cusp and others will be taken, what is the criteria - noise?

Response: Tom Dodson explained that there are several factors taken under consideration such as future disturbance in support of construction and operations, access, traffic, pedestrians, and flood control. Noise was not a factor in acquiring any of the identified properties.

25. James Koopmen comment: What the criteria for taking homes in the project?

Response: Tom Dodson explained that the criteria for having to acquire property was that a specific parcel had to be determined by the engineers and the design review team to be essential to construction and operation of the project components. One further criteria, elimination of functional value, without requiring the specific piece of property was also used by the designers and design review team to identify essential properties for acquisition.

***Responses to Public Meeting Comments, City of Santa Fe Springs (continued)***

26. James Koopmen comment: Questions two, what about the flooding of the underpasses?

Response: Steve Metro explained at the meeting that the drainage and the pump stations will be used where necessary to control flooding of the underpasses. Also, the control of trash and leaves is included in the underpass flood control designs.

27. Ronald G. Lawrence II comment: Where are you looking for funding?

Response: Marina Sueiro indicated at the meeting that the City has submitted an application to MTA and, after State funding dried up, an application has also been submitted to the federal government and that is about it. Ken Galt also stated at the meeting that there are some funds to start the track process and this money is not going away. This segment is in Orange County and one of the sources of funding is the State Highway account and the transportation account. So these dollars will slowly become available for third track construction. This project is just like the highway projects in the way the funding process works. However, Division of Rail has a little easier time getting money than highways. In the future these accounts may also be used to fund the grade separation projects. This source of funding is coming from the gas tax money; it is not coming from sales tax or state budget.

28. James Koopman comments:

- a. Any problems with flooding underpass in heavy rainstorms?
- b. How well prepared?
- c. If drain clogged in dry season with leaves, etc.
- d. Will underpass get flooded and traffic stopped?
- e. Told that 15 homes would need to be razed. Could any of these homes be salvaged with alternate access, if homeowners is willing to sign a waiver that he will not sue for damages?

Response:

- a. Please refer to response to comment #26 above. The underpasses are being designed to handle the design storm for the project area. Detailed drainage evaluations and plans have been prepared for the whole project, including specific grade separations and have been available for review as part of the CEQA process. The underpass drainage systems should work effectively during heavy rainstorms based on the analysis contained in the drainage studies.
- b. As indicated in response 28.a above, detailed drainage plans have been prepared and were used to design the system. These plans are available for public review.
- c. Each jurisdiction that assumes the operations and maintenance responsibilities for a grade separation will include maintenance of the drainage system prior to the passage of winter storms to ensure that clogging with leaves or other problems do not cause flooding.

***Responses to Public Meeting Comments, City of Santa Fe Springs (continued)***

- d. Based on the data developed to date, the underpasses will function during a heavy storm. Further, these underpass drainage systems have redundant equipment for essential components. As in all instances, any system can fail but it would be unusual for these systems to fail based on their current design.
  - e. Approximately 15-20 properties will have to be acquired at three grade separations (see responses to comments 17, 18 and 22 above) and in support of the third main track. Based on the current designs, none of these properties could be retained for use by the property owners due to adverse impacts from the proposed project. There is no plan at this time to provide an owner with the option waiving damages due to the project. Also, please refer to response to comment 10.e which summarizes the current situation. None of the grade separations has been funded or approved at this time. Individual property owners can participate in the final decision-making process and seek to have their property removed or the project denied.
29. Francisco Perez: (Comment Card 6 - no comments submitted)

**RESPONSES TO COMMENTS  
PUBLIC MEETING COMMENTS  
CITY OF PICO RIVERA  
WEDNESDAY, MAY 6, 2003**

1. Victor Felix comments:

- a. Will the track be on the left or right side of the tracks?
- b. Will landscaping be expanded to the east of Passons?

Responses:

- a. In the City of Pico Rivera the new track will be on the north side of the existing tracks.
- b. Landscaping will be installed on the west of Passons in association with the closure of Serapis. As far as is known, there are no plans to install landscaping east of Passons.

2. Alex Rodriguez comments: Will there be a sound wall?

Response: No, the project does not include a sound wall. First, it was determined that adding the third main track will not significantly increase noise in the community. Therefore, installation of a sound wall cannot be justified based on project related noise impact. In addition, the City commissioned a noise study which determined that the size of sound wall required to be effective would be almost 20 feet in height and such a wall would cause significant impacts of its own, including visual impacts, sound reflection, and physical division of the community. This is explained in the EIR (Subchapter 4.9) and in Volume 2, Technical Appendices to the EIR.

3. Louis Rodriguez comments: Can he have a report?

Response: A copy of the report was made available to Mr. Rodriguez.

4. Henrietta Salazar comments:

- a. Wall Height?
- b. Soil contamination on Passons/water well closed because of it?
- c. Doesn't like the closing of Serapis because of the fire department on the other side; what will happen to the response time of emergency vehicles.?

Responses:

- a. Wall height would have to be 20 feet or more to attenuate sound to the City's standard along the railroad tracks in Pico Rivera. See the wall technical study in Volume 2 of the EIR.
- b. The potential for soil contamination along the third main track alignment and at each of the grade separations is acknowledged in the Draft PEIR and mitigation was provided to manage any contamination found in a manner that would not cause a public health risk to construction employees or to local residents. See Subchapter 4.6 of the Draft PEIR.

***Responses to Public Meeting Comments, City of Pico Rivera (continued)***

- c. Contrary to expectations, emergency service will be enhanced after the Passons grade separation is installed. The reason for this is as follows. Presently, emergency access north of the BNSF tracks is prevented for about three hours per day due to trains occupying the at grade crossing at Serapis and Passons. When this occurs, emergency service providers must go to Rosemead Boulevard to access areas north of the track. Once the Passons grade separation is installed emergency vehicles will have continuous uninterrupted access to areas north of the tracks. Serapis will only be closed after the Passons grade separation is completed.
5. Joanna Garcia comments:
- a. Will there be an archaeologist onsite during construction?
  - b. How long will the railroad hold up traffic?
  - c. What about the contaminated soil in the area.
  - d. How can all questions be answered when some people have to work at night?

**Responses:**

- a. No cultural resources were identified within the project alignment. An archaeologist will be on call to respond to the discovery of any unknown subsurface historic or pre-historic resource. Mitigation requires that proper management of any such discoveries be implemented by the contractor. Refer to Subchapter 4.1 of the Draft PEIR.
  - b. It is not clear what this question refers to. Current delays that may occur at the at-grade crossings is about three hours per day. When the third main track is installed, it will require one to three days to construct through a given at grade separation, such as Passons Boulevard. During this period a detour route will be established in cooperation with the affected city and it will be well signed to assist drivers to alternative routes for this short period. Once the grade separations are in traffic will no longer be held up at these locations.
  - c. The potential for soil contamination along the third main track alignment and at each of the grade separations is acknowledged in the Draft PEIR and mitigation was provided to manage any contamination found in a manner that would not cause a public health risk to construction employees or to local residents. See Subchapter 4.6 of the Draft PEIR.
  - d. Individuals concerned about the project can submit questions to their respective city representatives or to BNSF regarding this project. Answers will be provided when possible.
6. Bill Slevcove comments:
- a. Where will construction start, north or south?
  - b. Will it all start at once?
  - c. Does the grade separation start first and then the third track?

**Responses:**

- a. Construction on the third main track will start on the south with the segment from Basta north to about Beach Boulevard.

***Responses to Public Meeting Comments, City of Pico Rivera (continued)***

- b. No, with the State budget crisis, funding is available for about 1/4 of the project (about 3-4 miles) and the third main track will be installed incrementally over the next three to four years.
  - c. At this time the third main track will be initiated first. Full funding is not yet in place for any of the grade separations. Authorization to proceed with construction cannot be issued by a local city until all of the funding has been acquired. A specific schedule for implementing the grade separation components of the program is not feasible due to the budget crisis.
7. Michael Jones comments:
- a. Will there be a sound wall?
  - b. What about the vibration?
  - c. How can you stop whistle blowing?
  - d. What will happen to property value?

Responses:

- a. No there will not be a sound wall. Please refer to response to Pico Rivera comment 2 above which addresses this issue.
  - b. Vibration impacts are evaluated in Subchapter 4.9 and the changes in vibration due to the proposed project were determined to be nonsignificant. Please refer to Subchapter 4.9 and Appendix 8.5 for more detailed information.
  - c. Whistle blowing is required by federal regulations where all at grade road crossing over tracks occur. Once the Passons grade separation and Serapis closure is completed there will no longer be a need to for trains to blow their whistle.
  - d. Under CEQA, environmental documents are not required to address economic issues, except under very narrow circumstances. The EIR did not identify any significant physical changes to the existing environment. Based on the lack of any significant environmental impacts, there was no need to look at economic impacts of the project.
8. Rene Longoria comment: Will there be a wall on Pico Rivera Road?
- Response: No sound wall is being considered in relation to this project at any location. Please refer to response to Pico Rivera comment 2 above which addresses this issue.
9. Burt Rodrequiz comment: What kind of landscaping will be used off Rivera Road?
- Response: A landscape plan has been prepared for Rivera Road and is available for review at the City of Pico Rivera.
10. Elazar Cisneros comment: We need a wall at least 25 to 30 feet high. What about the pollution?



***Responses to Public Meeting Comments, City of Pico Rivera (continued)***

Response: To attenuate existing noise along the BNSF railroad tracks, a sound wall would have to be taller than 20 feet, according to a technical noise study prepared under a contract to the City of Pico Rivera. The proposed project does not require the installation of such a sound wall. Regardless, if installation of such a wall is proposed by the City or other agency, it would require evaluation of possible pollution being trapped locally.

11. Diane Delgado comments:

- a. How or where does the sloping of Passons begin?
- b. How will the residents get into their driveways?
- c. What about flooding?

Responses:

- a. The sloping for Passons on the south side of the tracks begins just north of Slauson Avenue, see Figure 3-4a. On the north side of the tracks the sloping begins about 300 feet north of Rivera Road. The project relocation of Rivera Road requires the acquisition of the first four homes on the northwest side of Passons, north of Rivera. These homes will be acquired and removed prior to initiating construction. Access to no other single-family homes will be affected by the proposed Passons grade separation project. About 1/2 of the multi-family apartment units on the east side of the Passons may be affected by the proposed realignment of Rivera Road; however, the City may choose to acquire the whole apartment complex, an issue which is addressed in Subchapter 4.10 of the Draft PEIR.
- b. As noted above, other than the residences being acquired to allow this project to go forward, continuous access will be available to all other residences in the vicinity of the construction zone.
- c. It is not clear what flooding is being referenced. Regarding the existing drainage channel along the Rivera alignment, it is being relocated along with Rivera Road to continue providing adequate capacity to carry local surface runoff. Please refer to Figure 3-4a of the Draft PEIR. Potential flooding in the grade separated Passons underpass will be managed with a redundant pump system that will pump runoff in the underpass to the local drainage system.

12. Dorothy Oliver comment: Will they get rid of the junk yard on Rivera Road?

Response: No the project will not change any land uses except the residences referenced in the previous comment. However, junk (solid waste) within the construction alignment will be removed by the construction contractor as part of the construction effort.

13. Milford Gerry comment: What about the grain silos and truck loading on Rivera Road, ending where Kil Garry Dead Ends? Will the grain silos be eliminated?

Response: No the project will not change any land uses except the residences referenced under comment 11 above.

***Responses to Public Meeting Comments, City of Pico Rivera (continued)***

14. Henry Chavez comments: What about the noise and dust during construction? Will the vibration cause damage to my pool?

Responses: Noise will be controlled during construction by limiting operations during daylight hours or by installing portable noise attenuation barriers where construction activities must be conducted at night. Refer to mitigation measures in Subchapter 4.9 for the list of noise mitigation measures that will be implemented during construction. Construction vibration is not forecast to cause significant vibration at the distance of existing residences from the Passons grade separation. However, if such damage were to occur, a damage claim can be submitted to the City for processing.

15. Joanna Garcia comments: What will happen to emergency vehicles? How long will it take them to get around construction?

Responses: The construction should not cause any emergency response delays because access across the tracks will be available on Serapis during the construction period. For example, during construction of the third track Passons may be closed for 24-48 hours, but emergency response vehicles will continue to use Serapis. When the third main track construction blocks Serapis for 24-48 hours, then emergency response vehicles will use Passons. Both roads will not be closed at the same time. Further, Rosemead Boulevard is already grade separated and access will be available on Rosemead at all times. When the Passons grade separation is constructed access will remain available across the tracks at both Serapis and Rosemead. Emergency service providers will know this in advance and they will therefore be able to maintain adequate response times to areas north and south of the tracks.

16. Baryon Myers comment: What about a sound wall?

Response: Please refer to response to comment #2 above, Alex Rodriquez.

17. Raymond Gomez Jr. comment: How much money will the Railroad fund?

Response: The third main track improvement is being funded by Caltrans in order to enhance the ability of passenger trains to meet their schedules. As described in Chapter 3 of the Draft PEIR, the objective of this project is to enhance the flow of train traffic on this segment of the BNSF main line corridor with the goal of meeting passenger train schedules and attracting more riders on this essential mass transit system. The funding sources for the seven grade separations has not been fully identified, but railroad funds are not anticipated to be spent on these capital improvements. The actual funding sources will be determined in the future as the individual cities and other agencies acquire or make commitments to construct these major circulation system improvements.

***Responses to Public Meeting Comments, City of Pico Rivera (continued)***

18. Carlos Contreras comments:

- a. Which residence is closest to the third track?
- b. Who do we talk to for sound wall?
- c. How long will Passons be closed?
- d. Will it be closed during construction of third rail?
- e. Will the speed limit of 25 remain after project?

Responses:

- a. Most of the residences located on the north side of Rivera Road are about the same distance from the tracks, about 100 feet. The apartment complex at the northwest corner of Cord Avenue and Rivera Road is about the same distance, perhaps a few feet closer to the proposed third track.
- b. The City of Pico Rivera is the logical agency to discuss the possibility of installing a sound wall. The City had a specific study looking at the Rivera Road area west of Passons. This study is reproduced in Volume 2 of the Draft PEIR and it was prepared under contract to the City. Please refer to this study, "Noise Barrier Analysis," published May 15, 2002.
- c. To construct the grade separation, Passons is proposed to be closed about nine months.
- d. Passons may be closed for 24-48 hours when the third main track is installed. During this period north/south traffic will be detoured, most likely to Serapis. Please refer to response to comment #15 above from Joanna Garcia.
- e. The speed limit on Passons is proposed to remain the same after the grade separation is completed.

19. No name (Card30) comment: Could you slow the trains down to stop vibration?

Response: No. Train speeds on specific rail segments are established under the Federal Railroad Administration (FRA) and the allowed speeds along this segment of track is about 69 mph for freight trains and 79 mph for passenger trains. This project has no ability to affect the allowed train speed through this portion of the BNSF main line corridor.

20. Diana & William Delgado comment: They live on Passons right across from Bascom. When they close Passons will all the traffic from the streets and the school be diverted towards them?

Response: Bascom, Serapis and the new Rivera Road (new alignment) will provide access from east to west to the school. But Passons, north of Bascom, will also provide access as will Rex Road.

21. E. Garcia comment: Can you sound proof homes with double pane windows?

Response: Double pane windows will reduce interior sound levels, but not substantially. In addition to double pane windows, other openings to the exterior, such as fire places and vent spaces, need to be treated as well. Double pane windows should reduce exterior sound by several decibels.

***Responses to Public Meeting Comments, City of Pico Rivera (continued)***

22. Ruben Mendoza comment: What sound proofing wall will you put on Rivera?

Response: This project will not install sound walls on Rivera. Please refer to response to comment #2, Alex Rodriguez, for more detailed discussion of this issue. Additional discussion of a sound wall is contained in response to comment #18, Carlos Contreras.

23. Paula Rodriguez comment: If the track would have gone on the other side the strip club would have been removed.

Response: This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented.

**RESPONSES TO COMMENTS  
PUBLIC MEETING COMMENTS  
CITY OF LA MIRADA  
WEDNESDAY, MAY 7, 2003**

Public meetings were held in the four cities affected by grade separations and land acquisition. The following comments were received at the City of La Mirada meeting.

1. Jay Orendorff commented: On Valley View Boulevard between Stage Road and Rosecrans Avenue will any of the existing landscaping be removed just east of Valley View?

Response: The trees will remain separating the homes from the main street.

2. Gene Mader commented: Because of the increase in trains has there been a change in property value? Has there been a study?

Response: As described in detail in Chapter 3 of the PEIR, the proposed project will not increase train operations along the BNSF main line corridor through La Mirada. Any future increase in train traffic would utilize the existing main tracks through La Mirada, regardless of whether this project is implemented or not. Further, the California Environmental Quality Act (CEQA) does not focus on economic impacts, unless the economic effects lead to changes in the physical environment. No economic evaluation has been prepared for this project, except in instances where property will be acquired to support the grade separations or the one main track property acquisition in Buena Park.

3. Kathy Gaston commented: How far back on Stage Road towards Castellon will construction start? How far back will the slope start?

Response: The construction activities will not really occur on Stage near Castellon. The construction on Stage extends southeast of Valley View for about 400 feet and north of Stage on Valley View for about 800 feet. All construction will occur directly adjacent to the existing road rights-of-way and will not have any direct or indirect effects on property adjacent to Castellon. New Figures 3-9a through 3-9d illustrate the area of potential impact from constructing the Valley View Avenue Underpass grade separation. These new figures are provided in Attachment 2 to this document.

4. Alice Jimenez commented:
  - a. What is the estimated time of completion at each grade separation crossing?
  - b. Why is each city responsible for funding if the benefactor will be a mass of people?
  - c. Will any sound barrier be built with the grade separation on Rosecrans and Valley View?
  - d. Will the third track be laid regardless of the grade separation funding?
  - e. How long will Valley View be closed while the third track is laid?
  - f. How will auto traffic be handled on State/Valley View during track construction and grade separation?
  - g. In La Mirada, we have two projects Valley/Stage and Rosecrans. If only one can be funded how will it be chosen?

***Responses to Public Meeting Comments, City of La Mirada (continued)***

Responses:

- a. Each grade separation will require different amounts of time to complete. However, for all seven grade separations the time required for construction is estimated to range between 9 and 14 months, with the longest construction period estimated for Valley View.
  - b. Each city is overseeing the installation of the grade separations within their jurisdiction (Valley View is located in both La Mirada and Santa Fe Springs) because they wish to control the construction of these major capital facilities within their jurisdiction. Funding efforts are being overseen by each affected city because the grade separations are capital improvements within each city's jurisdiction. However, the acquisition of funding is not being carried out solely by each affected city. Funding efforts are being coordinated with assistance from county, state and other agencies and elected officials.
  - c. The grade separations will be constructed as underpasses. As a result, sound levels in the area of the under crossing will decrease as a result of noise sources being depressed below the ground surface. No need for sound barriers was identified in the Noise Section of the Draft PEIR because the project will not alter traffic volume on the local circulation system nor increase sound/noise generation at each grade separation location.
  - d. Yes, the third main track will be constructed regardless of whether grade separations are installed. Separate funding has been made available for constructing this rail infrastructure improvement to enhance the movement of trains through the existing two main track segment between Basta and Hobart.
  - e. The present estimate is that installation of the third main track across Valley View will require from 24-48 hours and all work on the third main track will be conducted at night if possible to avoid conflicts with Valley View traffic.
  - f. During installation of the grade separation, traffic on Valley View will be routed to a detour (see the drawings, 3-9a through 3-9d at the end of these responses to comments) on the west side of Valley View. During the short period when the third main track is installed across Valley View, traffic will be detoured to an alternate north/south route, probably Marquardt or Biola.
  - g. Due to the safety hazards experienced at Valley View in the past, the installation of the Valley View grade separation has been given the highest priority of the seven grade separations considered in the Draft PEIR. Thus, Valley View will be funded and constructed first, but funding will continue to be sought for the Rosecrans/Marquardt grade separation. It will be constructed when funds become available.
5. Greg Futato commented:
- a. Funding?
  - b. What is the total amount needed to start the grade separation?
  - c. How much do we have now? And What happened to the funding we had last year?
  - d. Are the two projects independent from each other. How did Alameda corridor get accomplished?

***Responses to Public Meeting Comments, City of La Mirada (continued)***

**Responses:**

- a. Funding is presently available to construct the third main track between approximately Basta and Beach Boulevard. Construction for this segment can begin anytime in the next several months. Some of the funding remains available for the Valley View and Passons Boulevard grade separations, but before construction can begin for either of these grade separations, additional funds will be required since all funds required to pay for the grade separation must be in the hands of the pertinent city.
  - b. Approximately \$30 million is required to fund the Valley View grade separation and cover all costs. Other grade separations vary in cost relative to Valley View. Preliminary estimates indicate that the cost for constructing all of the grade separations will require about \$170 million.
  - c. The exact amount available at this time is not known for the two grade separation projects expected to be constructed first, Valley View and Passons Boulevard. Much of the funding available for the Valley View project last year has been eliminated as a result of the State of California budget constraints.
  - d. The two projects referred to (Valley View and Rosecrans/Marquardt) are independent and will be implemented as funding becomes available. The Alameda Corridor was constructed with substantial federal funding that was committed because of the need to move freight from the Los Angeles and Long Beach ports. This project was not scheduled to receive any federal funding and is being implemented as a means of enhancing the flow of rail traffic to ensure passenger trains can meet schedules along this rail corridor. At this time only state funding will be used to install the third main track over this segment of the rail corridor.
6. Ralph Curatola comments: Will there be a sound wall? Will there be anything to stop the dust? And how can the stop it now?

**Responses:** No sound walls are proposed nor were they required as part of the implementation of the proposed project. Please refer to the discussion on sound walls in Volume 2 of the Draft PEIR. It discusses the potential effectiveness of a sound wall adjacent to the existing main line tracks.

An extensive fugitive dust control program will be implemented in conjunction with third main track and grade separation construction. The total area of disturbance by this project will be relatively small and detailed fugitive dust control measures are outlined in subchapter 4.2.4 of the Draft PEIR. Greater than 50% control of fugitive dust emissions can be accomplished by the proposed measures and fugitive dust emissions will be controlled to level well below the SCAQMD threshold of significance for this pollutant during construction.

No project activities currently occur so no fugitive dust emissions are being generated by the proposed project. Fugitive dust for other projects must be controlled by individual jurisdictions overseeing or approving such projects. Otherwise, it is not clear what dust is being referred to in this comment.

***Responses to Public Meeting Comments, City of La Mirada (continued)***

7. Gary Webber comments: The project in the EIR does not appear to reflect the current improvement plans prepared by Hanson-Wilson. Will the project description be revised? How does the revised project affect the quality of the EIR analysis?

Responses: Please refer to responses to comment letter #16 which contains the same general comments. The project description is revised in the Final PEIR to address the slight modifications to the project in the final drawings for the Valley View grade separation by Hanson-Wilson. The footprint and impacts associated with the final engineering plans for Valley View are less than addressed in the Draft PEIR, so impacts are actually less than forecast in the Draft document.

8. Elaine Reid comments:

- a. Has it been determined that we can not have the depressed corridor?
- b. Where are the extra sidings going to be?
- c. How was it concluded that this project would not cause significant adverse impact? Particularly air quality and noise impact.
- d. What is the possibility of the tracks being underground?
- e. More new housing in area..more cars, more pollution. What will be done about that?
- f. Any steps being taken to curtail the length of whistle use?
- g. What mitigation measures were identified to reduce potential impacts on the environment?

Responses

- a. The proposed project is the addition of a third main track to the existing BNSF main line rail corridor within a 14.7 mile segment that contains only two tracks. The objective of the project is to enhance the flow of rail traffic on this main line corridor to allow passenger trains to better meet departure and arrival schedules. Grade separations are being considered at seven major intersections of local roads and the train tracks. Aside from the cost of depressing the corridor (it would be impossible to depress only the single track), the environmental effects of digging out a hole in the ground 100 feet or more wide, 25 feet in depth and 14.7 miles long would result in much more significant adverse environmental effects than the proposed project. The amount of fill material required to serve the project area is a few hundred thousand cubic yards. With a depressed corridor, an estimated 7,186,667 cubic yards of material. To remove this much dirt/material from the corridor would require an estimate 479,000+ truck trips. Further, in order to maintain existing train traffic within the corridor temporary construction easements adjacent to the corridor would have to be established resulting in the need to take a significant amount of land; remove existing structures; and install new tracks in closer proximity to existing land uses. Because the environmental and economic impacts of such an alternative would be so much greater than the proposed project and because such a project is not required to meet the limited objectives of the proposed project which is to provide enhanced flow of rail traffic within the existing rail corridor, not to expand the capacity of the corridor, the alternative of depressing the corridor below ground level was not considered to be a feasible alternative to the proposed project.
- b. Please refer to Chapter 3 of the Draft PEIR which clearly explains that no new trains will be generated by this proposed project. Potential future increases in train traffic will



***Responses to Public Meeting Comments, City of La Mirada (continued)***

be generated by economic activity in the region, and such additional trains will use either the existing rail corridor with this two track segment or a three track rail corridor. Impacts to the environment over the long term were determined to be greater (See the alternatives discussion, No Project) without the proposed project than with it.

- c. Siding improvements are proposed in BNSF's Hobart Yard and near Bandini in the City of Commerce. The Conceptual Track Alignment Schematic in Appendix 8.2 shows the location of proposed new sidings.
  - d. The analysis contained in the Draft PEIR presented data, quantitative and qualitative, that verify potential impacts from implementing this proposed project will not exceed significance thresholds for all issues evaluated. For the air quality analysis see Subchapter 4.2 and for the noise analysis see Subchapter 4.9.
  - e. Regarding undergrounding of tracks, please refer to response to issue a. above. Under the proposed project there is no possibility of the tracks being placed underground for the reasons outlined above.
  - f. Regarding growth in the region, this issue is outside the scope of the proposed project which has no effect on or ability to influence the growth mentioned in this comment.
  - g. Installation of the grade separations will eliminate the need to blow train whistles along this 14-mile segment of the rail corridor because it will eliminate the existing at-grade crossings which require whistle blowing.
  - h. More than 60 mitigation measures are identified to reduce or control potential significant environmental effects from implementing the proposed project. These measures are listed and discussed in each Subchapter in Chapter 4 and are summarized in the Impact Table contained in Chapter 1 of the Draft PEIR.
9. Jose Rangel comments: Will Valley View be closed? If so for how long? Where and When? What happens to the affected business? Will there be an alternative route?

Responses: During the grade separation construction Valley View will be maintained to continue carrying traffic flows. Very short periods of closure (less than a few hours) may occur during this period as the detour route is connected to Valley View to the north and south. During the third main track construction a maximum of 48 hours of closure may occur as the track is installed across Valley View. This is usually done very rapidly by the BNSF track laying crews. A short-term detour will be installed to by pass the Valley View/track intersection while this small segment of track is installed.

Since the schedules for construction of Valley View and the third main track across Valley View have not yet been established a specific date of construction is not available. However, funding for construction of these specific improvements is expected to be available as early as 2005.

Affected businesses will retain access on Valley View throughout the period of construction. Some delay may occur for short periods due to customers having to use alternative routes to these businesses. Otherwise, access will be continuous during construction.

**Responses to Public Meeting Comments, City of La Mirada (continued)**

Alternative routes will be provided as outlined above and on the drawings attached to these comments.

10. Joe Shine comments: A short wall with some shrubs preferably. (Did not state location of interest.)

Response: It is not possible to provide a specific response to this comment because the location of concern is not expressed. However, short walls and landscaping will be used at the Valley View grade separation project site.

11. SSDI/Arnold Applebaum comments e-mailed for response:

- a. Concerned about the ability of traffic to turn left and get to and from the business?
- b. Congestion caused by construction for employees traveling on Valley View.
- c. The impact of noise and dust on the business - sensitive aerospace equipment.
- d. Will Stage Road remain a through street?
- e. Will SSDI's secondary driveway (to North parking lot) remain open?
- f. Will any part of SSDI property need to be acquired for the project?
- g. Will microwave link between SSDI and Stage Road building be disrupted during construction or after project?
- h. Landscaping/repairs to front of SSDI building and access during construction?
- i. SSDI will need to know months in advance of any interruption/switchovers of utilities due to long-term, uninterruptible, high reliability testing of components.
- j. Access needs to be maintained to liquid nitrogen tank in SSDI parking lot. A heavy truck delivers liquid nitrogen every other night (not during business hours).
- k. Heavy dust would be detrimental to SSDI's production, which involves manufacturing of parts that must meet military specifications.
- l. The project will create more walls, which is an invitation for more graffiti.
- m. SSDI seems to be in the eye of the storm with this phase of the project. SSDI has contractual obligations and needs to notify the government and its other customers well in advance of what's going on.
- n. Mr. Applebaum disapproves of the project.
- o. Numerous environmental issues listed on the comment card; noise, dust, safety issues, vibration, traffic, fire protection, elimination of access to property.
- p. This project will decrease Mr. Applebaum's property value.
- q. This project will impact SSDI's customer flow.
- r. Will there be a fourth track?
- s. Stage Road has a drainage and flooding problem - will this project correct it?
- t. Will large trucks have access to SSDI?
- u. Vibration and dust will affect Mr. Applebaum's aerospace manufacturing company. Will there be compensation for lost business or will the project pay for upgrading of fans and equipment to maintain the working environment?
- v. Stage road is a blighted area - concerned about the lack of clean up by the city.
- w. Can trucks park along BNSF railroad?
- x. Is Valley View totally funded?
- y. How long will the construction take?
- z. Because of this project, Mr. Applebaum will lose one of his parking lots. In order to access the other lot, vehicles will have to go through a neighboring property.
- aa. Are the preliminary plans to dig up both the north and south driveways of Mr. Applebaum's property?
- ab. How does Mr. Applebaum operate his business during construction?

***Responses to Public Meeting Comments, City of La Mirada (continued)***

Responses:

- a. The final plan of construction is provided as an attachment to these responses to comments. Attachment 2, and detailed engineering plans can be reviewed at either the City of Santa Fe Springs or City of La Mirada. It shows the following on the SSDI property: None of the SSDI property will be permanently taken; permanent access will be maintained at both the north and south entrances to the property; continuous access will be available during construction at the southern entrance to the property; access to the north parking area will be limited during construction; traffic on Valley View will be provided continuous access to the property at the southern entrance, including left turn traffic, with small traffic disruption windows required to install access to the property for the construction period and to construct the permanent entrances after construction of the grade separation.
- b. There will be some congestion effects during construction that may affect ease of access for SSDI employees. However, the project will ensure continuous access to the property during the Valley View construction period and based on the access design shown in the attached drawings, the access constraint will be an inconvenience, not a major limitation on gaining access to the property.
- c. The Draft PEIR addresses the noise and dust effects during construction and in Subchapters 4.2 and 4.9. The air evaluation recognizes the concerns of specific industrial facilities and establishes a special monitoring program requirement (page 4.2-19). The monitoring requirement is not mitigation in itself, it is a means to distinguish local dust problems from the particulate issues that affect the region. One of the comments raised later in this group of comments is the need to install better filtering equipment (fans and filters) or compensate for lost business that may result from fugitive dust. The mitigation measures for fugitive dust control are state-of-the-art and given the small construction area no significant effects are forecast to result from construction activities. However, by monitoring local atmospheric dust concentrations real time during construction (with the use of new equipment such as hand-held field monitoring units, such as the Dustrak Aerosol Monitor 8520), the background conditions can be distinguished from the project's contributions of dust. The result is that if better filtering equipment is justified or if costs are incurred by SSDI during construction due to fugitive dust issues, there will be a bases for establishing compensation for impacts or losses.

Regarding noise, none of the background noise activities are forecast to exceed the existing background noise environment created by existing train and truck traffic. In addition, portable noise barriers can be installed to further reduce noise if complaints are presented to the City overseeing or contractor conducting the construction. With these measures, the noise impacts can be controlled to a level that is deemed equivalent or less than the existing background noise environment at the site.

- d. Stage Road will remain a through street as shown on the engineering drawings attached to these responses to comments.
- e. During construction the north parking area will not remain open for use as it will be required as a temporary easement. However, when the Valley View grade separation is completed it will be returned to SSDI with a new access as shown on the attached drawings.

***Responses to Public Meeting Comments, City of La Mirada (continued)***

- f. No, none of the SSDI will need to be acquired in order to implement the Valley View grade separation. One of the maps in the attached drawings shows that two permanent easements will be required on SSDI property and two temporary easements will be required. SSDI will be paid fair market compensation for the use of these portions of the property under both the temporary and permanent easements.
- g. Since the Valley View grade separation is an underpass, the engineers indicate that no interference will occur in the microwave link between SSDI and the Stage Road building. However, should equipment or other construction activities have a potential to interfere with the microwave link, this can be determined prior to initiating construction and alternatives can be provided to maintain the link, such as a hard line, or if necessary compensation can be provided for any documented disruptions.
- h. It is not anticipated that construction will adversely impact the SSDI building based on the present design. However, if building damage were to occur, it would be subject to fair market compensation for any structural damage incurred. Regarding landscaping, when the City embarks on construction of the Valley View grade separation it has a landscaping plan ready for implementation. This plan can be further coordinated with SSDI to ensure that it meets your objectives.
- i. As SSDI was made aware at the most recent meetings, the State full funding that was in place to implement the Valley View grade separation is no longer available due to the State's budget crisis. The cities of Santa Fe Springs and La Mirada are seeking alternative funding sources. There is no assurance when any of the grade separation project will proceed, but the cities are looking at 2004 or 2005 funds for Valley View at this point. There is more than ample time to inform SSDI of the construction schedule that might affect utilities for the following reason. CEQA procedures (Sections 15162 and 15168 of the State CEQA Guidelines) require a subsequent environmental determination for each of the grade separations, including Valley View, when adequate funding is obtained and the City is ready to release a construction contract. The city issuing and overseeing the construction contract, probably Santa Fe Springs, will have to review the construction project as a second tier project under the certified Program EIR. It will have to make one of the following determinations, which will, in part, depend on how much time has transpired between the certification of the Draft PEIR and the approval of the second tier CEQA document. First, after a thorough review the city could determine that the impact analysis in the certified PEIR adequately addresses all of the environmental issues. Second, small changes in the project could be addressed in an Addendum. If additional mitigation measures are required, but impacts remain nonsignificant, a Negative Declaration could be adopted. Finally, if new significant impacts may result from the construction of the Valley View grade separation a supplemental or subsequent EIR could be prepared. During this review and decision-making process, the city can give SSDI several months of warning regarding the timing of certain construction events, based on the assumption that the grade separation will be approved by the city's decision makers. The key to this issue is for SSDI to coordinate with the city to obtain the prospective construction schedule and then work with the city and utility provider to ensure no disruption in service during any potential conflict with provision of adequate, uninterrupted power to SSDI.
- j. As the attached drawings and the text above indicate, continuous access will be provided to the SSDI property. Therefore, no constraints or limitations will occur to affect these every two-day deliveries of liquid nitrogen.

***Responses to Public Meeting Comments, City of La Mirada (continued)***

- k. This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. Please refer to response to comment 11.c above which further addresses fugitive dust concerns.
- l. The statement regarding more walls is accurate, but the conclusion that graffiti will result an eyesore is not correct. Both the City of Santa Fe Springs and La Mirada have extensive walls in their City related to public buildings and other grade separations. Both cities have programs in place to control graffiti on public spaces so that it does not become a significant eyesore in the local community. These programs will be extended to each of the new grade separations, including Valley View.
- m. Please refer to response to comment 11.l which addresses the issue of adequate time to notify customers of any actual impacts to operations. At this time the construction schedule for Valley View is not established and it could be several years before all the funding is assembled to allow the Valley View grade separation project to proceed. Even if the Valley View component of the overall program is funded in 2004, there will be many months in which to discuss an implementation schedule and allow SSDI to communicate with its customers as indicates in this comment.
- n. This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. SSDI must be aware that the Valley View/Stage Road/BNSF main line corridor intersection is considered to have one of the worst safety records for an at grade crossing in the State. This is why it has been given the highest priority. The crossing meets all federal and state safety requirements, but for some reason more accidents occur at this location, including fatalities, than at most other grade separations in the State. Therefore, delays in installing the grade separation, regardless of the reason, could lead to additional accidents. Mr. Applebaum may oppose the project because of perceived conflicts with his business, but he cannot begrudge the benefit to society of removing this at grade crossing safety problem.
- o. Please refer to responses to comment letter #17 from SSDI consultant which addresses these impacts in detail. After reviewing these comments, the Department of Transportation still believes that the specific program components (third main track and seven grade separations) can be implemented without causing significant adverse environmental effects either during construction or during future operations.
- p. It is not clear that Mr. Applebaum's property values will decrease. The grade separation will be an attractive facility that will actually provide new landscaping and visual buffering between Valley View and his property. Further, access to the property from the north and safety of traffic will be substantially enhanced by the grade separation. Further, after the third main track is installed the SSDI property will experience both less noise and less vibration. Having traffic use the underpass will also reduce overall noise at the SSDI property. If, after presenting substantiation to the cities that property values will be diminished by the project once complete, Mr. Applebaum has the ability to file a claim for fair market value losses which must be considered by the cities.

***Responses to Public Meeting Comments, City of La Mirada (continued)***

- q. Mr. Applebaum has not indicated what his customer flow is a present. Regardless, continuous access will be maintained during construction, and access will actually be better to the SSDI property after the grade separation is installed. Future customers will no longer have to wait in the que for the passage of trains. Free flow of traffic on Valley View will be a substantial improvement in access to the property from the north, and even from the south when long ques occur south of the tracks at the existing at grade crossing.
- r. Emergency access to the property will be maintained continuously during construction and as noted above emergency vehicle access will be substantially improved after the Valley View grade separation is completed. Delays of up to three plus hours per day due to trains will no longer interfere with customer or emergency service providers.
- s. This project is emphatically defined as the installation of a third main track over a 14.7 mile segment of the BNSF main line east-west rail corridor and seven grade separations. There is no possibility that this project will be expanded to address a possible fourth track. Note that this third main track will consume the remaining area within BNSF's 100 foot right-of-way. If someone proposes to install a fourth main track at some time in the future (entirely speculative at this time), it would require purchase of additional right-of-way; removal of existing uses in this right-of-way and a separate environmental document. As stated above, this project does not include or consider a fourth main track which is at best speculative at this time.
- t. Existing Stage Road drainage issues in the immediate vicinity of Valley View have been addressed and eliminated as a result of the existing grade separation design.
- u. All vehicles will have access to SSDI during construction and access by all vehicles on the local circulation system will improve after the grade separation is completed as outlined above under responses to comments 11.r and 11.s.
- v. Please refer to responses to comment letter #17 (which address the technical issues in some detail) and to response to comment 11.c above. The issue is that less vibration will affect SSDI operations in the future because an estimate 1/3 of the existing vibration will be reduced due to locating the third track on the north side of the existing two tracks adjacent to SSDI. Special construction measures (drilling foundation supports for the underpass rather than pile driving, for instance) will be implemented to control construction vibration activities to less than that currently experienced at the SSDI property from existing background activities. If SSDI can demonstrate lost business or a need for augmenting dust control equipment within the facility in order to remain operational (a clear nexus must be demonstrated by SSDI to the cities), then existing procedures are in place for the city to reimburse SSDI or to fund dust control equipment that can be justified at fair market value. Because this is an overt concern expressed by SSDI, special measures have already been identified, including monitoring background particulate concentrations and the additive concentrations that may be due to construction. SSDI should work closely with the cities to develop mutually acceptable monitoring criteria and methods for estimating costs for potential impacts to its business operations. The data indicate that no reimbursement should be necessary because potential dust and vibration impacts can be controlled to nonsignificant levels of impact. However, by working with the cities to

***Responses to Public Meeting Comments, City of La Mirada (continued)***

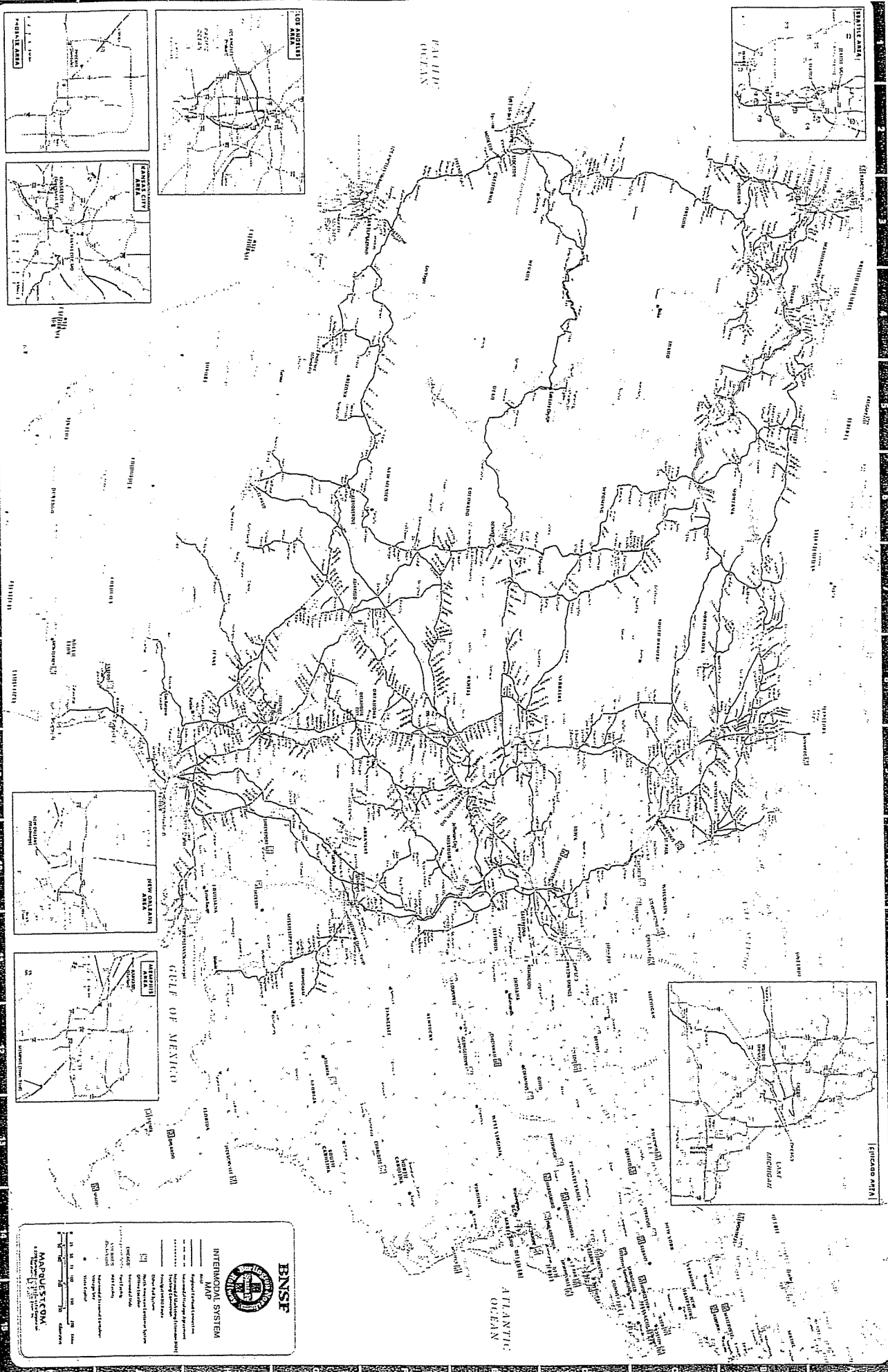
establish mutually acceptable mechanisms for measuring project impacts to operations, SSDI can proactively establish procedures to reasonable resolution of differences of opinion regarding actual impacts, if any, experienced during the construction of the Valley View grade separation.

- w. This comment is noted and will be forwarded to the Department of Transportation Division of Rail decision-makers for consideration before project approval is made to allow the proposed project to be implemented. The issue of the existing setting at Stage Road, regarding blight, is not an issue related to the proposed project. As noted above, the design of the grade separation with aesthetic components being integrated by the City is forecast to enhance the existing visual setting. Existing perceived blight problems need to be addressed to the pertinent jurisdiction.
- x. Trucks are not allowed to park along the BNSF right-of-way because of safety problems. However, during construction of the grade separation special circumstances may allow SSDI to request access to BNSF right-of-way for truck parking, if it can be determined feasible while protecting safety. SSDI should contact BNSF directly regarding this issue which is outside the CEQA process for the proposed project.
- y. As indicated in several previous responses, the Valley View grade separation is no longer fully funded. The affected cities are seeking additional funds. Please contact representatives of either the City of Santa Fe Springs or the City of La Mirada to determine the amount of funds in hand and funds being sought. This number may vary over short periods so it is most appropriate to deal directly with the cities on this issue.
- z. The Valley View grade separation will require between 12 and 14 months to complete based on the best estimates at this time. The third main track will require a few days to construct in the area adjacent to the SSDI facility.
- aa. Based on the current design, SSDI employees will be able to directly access the SSDI parking areas and will not have to access it through adjacent property.
- ab. Both driveways will be reshaped, with the northern driveway receiving the most change. However, the reshaping of the southern driveway will be done quickly and be done before the northern driveway will be impacted. The intent is to maintain continuous access to the SSDI property throughout construction and this can be done give the current design. Of course, both modified driveways will be available to provide access after the Valley View grade separation project component is completed.
- ac. Based on the data in the Draft EIR, Mr. Applebaum will be able to fully operate his SSDI business during construction. There will be some inconveniences, but none that have been identified as being significant, as the above responses to comments indicate. If some aspect of construction activities do impose burdens that affect SSDI's routine operations or ability to fulfill its business obligations, funds have been set aside in the budget for constructing the Valley View grade separation to fund legitimate impacts that can be substantiated to the cities.

## Appendix A

# **BNSF Intermodal System Map**

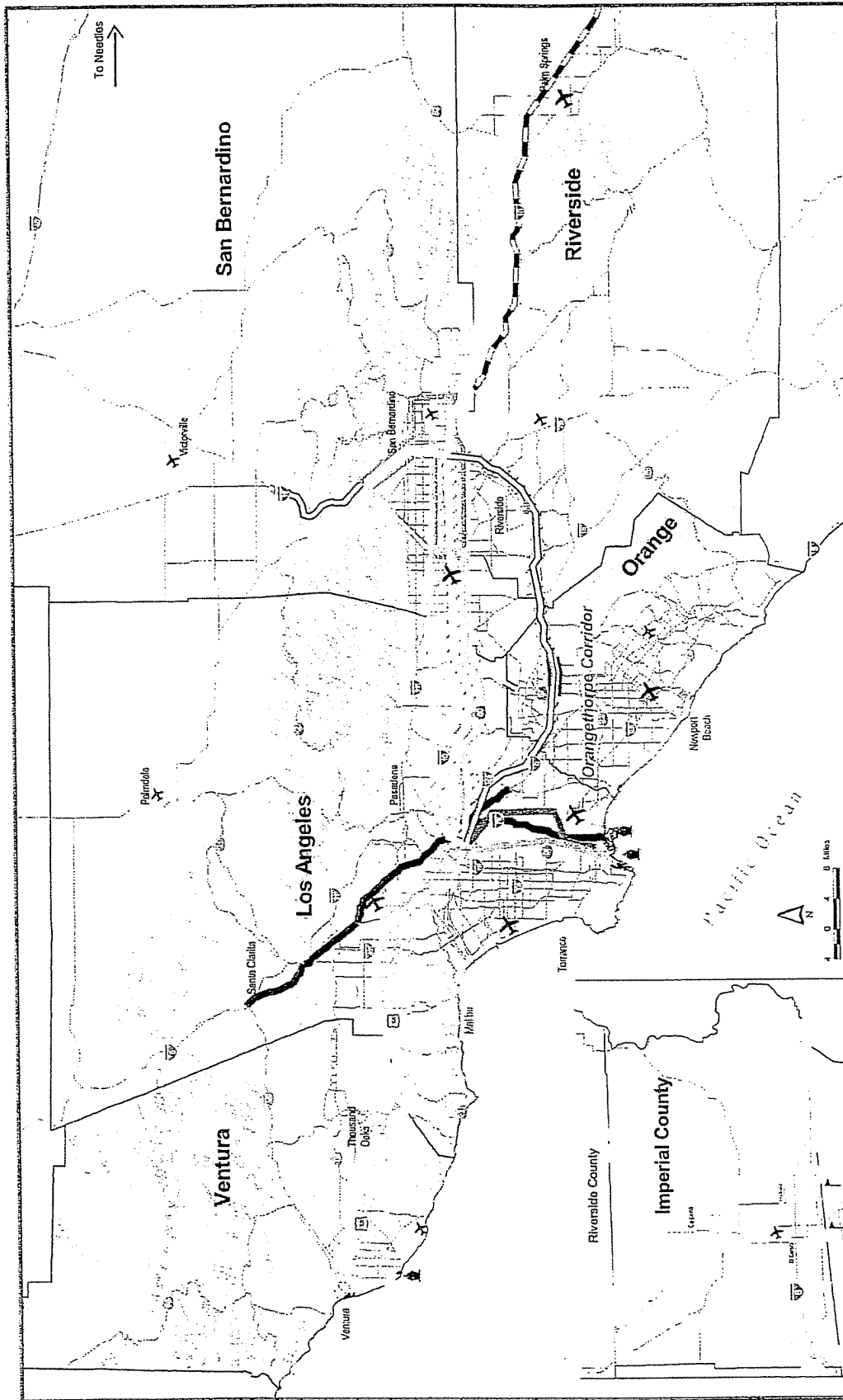




## Appendix B

# Goods Movement Projects

# 2025 Plan Goods Movement Projects



## 2025 Plan Goods Movement Projects

Port  
 Airport / Potential Airport Site

Port of Entry  
 Potential Airport Site

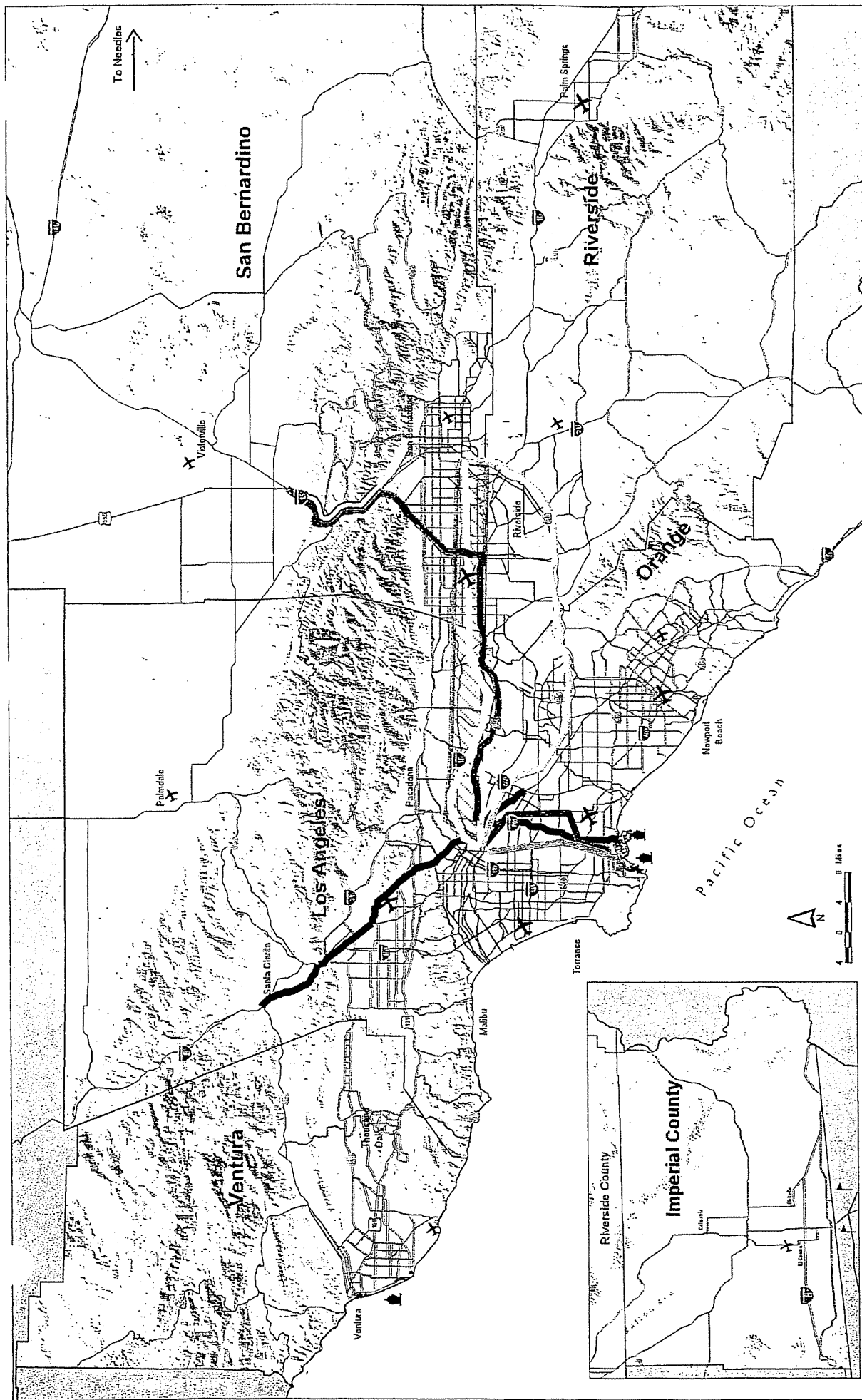
The SOAG Region  
2001 RTP

## Goods Movement Projects

<b>Baseline</b> Alameda Corridor Alameda Corridor East	<b>Draft Plan</b> Truck Lane Truck Climbing I-5 and I-710 Truck Lanes Long Term Study	Gateway Cities Grade Crossing Program ACE - LA, OR, RIV, SB Riverside Grade Crossings (to Indio) Southwest Passage	Rail Capacity Enhancements <small>(Boundary is not precise)</small> Potential Inland Ports/Inland Intermodal Terminals <small>(Boundary is not precise)</small>
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## Exhibit 5-8

Southern California Association of Governments  
April 2001



# 2025 Draft Plan Goods Movement Projects

- Port
- Port of Entry
- Airport / Potential Airport Site

## Goods Movement Projects

Baseline	Draft Plan	Goods Movement Projects
Alameda Corridor	Truck Lane	Gateway Cities Grade Crossing Program
Alameda Corridor East	Truck Climbing	LA-Orange/Riverside Corridor
	Metropolitan Transportation System	Inland Ports and Rail Capacity Enhancements (Boundary is not precise)
		I-5 and I-710 Truck Lanes Long Term Study

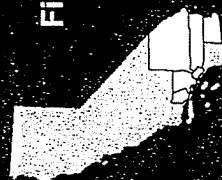


Figure PD-5

Appendix C  
**LOSSAN Rail Corridor  
Improvements Technical Studies**



# **BRIEFING PACKAGE**

LOS ANGELES TO SAN DIEGO  
RAIL CORRIDOR IMPROVEMENTS  
TECHNICAL STUDIES

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SPRING 2002



LOS ANGELES TO SAN DIEGO  
RAIL CORRIDOR IMPROVEMENTS TECHNICAL STUDIES



## LOS ANGELES TO SAN DIEGO RAIL CORRIDOR IMPROVEMENTS TECHNICAL STUDY

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### OVERVIEW OF ISSUES AND ALTERNATIVES

#### Study Overview

The Los Angeles to San Diego Rail Corridor is the rail alignment used by Amtrak, Metrolink, Coaster and freight service, and loosely parallels Interstate 5 from Los Angeles Union Station through Orange County to San Diego's Santa Fe Depot. This corridor is part of the Los Angeles – San Diego – San Luis Obispo (LOSSAN) rail corridor, which is the nation's second-busiest intercity passenger rail corridor.

The California High Speed Rail Authority (Authority) is preparing a Program Environmental Impact Report/Statement (EIR/EIS) for a statewide high-speed train system, in which service from Los Angeles through Orange County to San Diego is a significant component. The California Department of Transportation (Department) is preparing a Program EIR/EIS for incremental improvements along the Los Angeles to San Diego corridor. The Federal Railroad Administration (FRA) is the federal lead agency for both documents. All three agencies are cooperating to study conventional rail upgrades to this rail Corridor.

The Department and the Authority are responding to their own separate mandates, and each agency will produce its own environmental document. However, to eliminate unnecessary duplication of technical work, reduce costs, and simplify public and agency review of the environmental consequences of both programs, the Department intends to use the technical studies now being prepared by the Authority. The Department, the Authority and the FRA are working together to develop the technical data and studies that will be used in the preparation of draft Program EIR/EIS's. The data gathered will be used independently by each agency. The Department and the Authority are each responsible for making their own decisions, analyses, and determinations regarding the use of these studies.

#### Alternatives to be Studied

The upgrades proposed for study generally consist of:

1. Completing or substantially completing the double-tracking of the corridor;
2. Completing or substantially completing a fourth track from Commerce to Fullerton;
3. In connection with double-tracking, considering alternative profiles (e.g. trenches, tunnels, viaducts) and/or deviations from the existing corridor in:
  - San Juan Capistrano
  - San Clemente
  - Oceanside
  - Carlsbad
  - Encinitas
  - Del Mar
  - Miramar Hill
4. Realigning sharp curves at the Orange Junction and Dana Point;
5. Upgrading Stations;
6. Considering full or partial grade-separation

These improvements draw upon the Amtrak 20-Year Passenger Transportation Plan for the Pacific Surfliner Corridor, the double-tracking implementation policy of the North San Diego County Transit Development Board (NCTD), and other local and regional plans for the Los Angeles to San Diego corridor.



## LOS ANGELES TO SAN DIEGO RAIL CORRIDOR IMPROVEMENTS TECHNICAL STUDY

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### The California High-Speed Rail Authority



The Authority is an agency of the state of California that is pursuing development of a high-speed train system that would provide intercity train service at speeds exceeding 200 mph between the San Francisco Bay Area and Sacramento in the north and Los Angeles and San Diego in the south. In identifying alternatives for study in its EIR/EIS, the Authority found that a fully-dedicated high-speed link between Los Angeles and San Diego through Orange County would not be feasible due to community, environmental and fiscal issues. However, the Authority is interested in studying incremental, shared-use improvements to the Los Angeles to San Diego corridor that could create a higher-speed (up to 150 mph in non-urban areas), premium-quality feeder to the statewide system.

### The California Department of Transportation



The Department funds, manages and coordinates intercity rail passenger services in California, including analyzing funding requests and recommending state funding for operating assistance and capital improvements. For southern California, the Department provides operating funds to Amtrak for intercity passenger services via the corridor from San Luis Obispo through Los Angeles County, Orange County and San Diego County. As part of its ongoing efforts to improve intercity rail services, the Department is interested in studying the environmental consequences of improvements to the Los Angeles to San Diego corridor.

### Federal Railroad Administration



The FRA is the federal agency with responsibility for overseeing the safety of rail operations across the United States, and will serve as the lead Federal Agency both with the Authority for the program EIR/EIS on the proposed statewide high-speed train system, and with the Department for the program EIR/EIS on conventional upgrades in this corridor.

### Others



The Los Angeles County Metropolitan Transportation Authority (MTA), the Southern California Regional Rail Authority (Metrolink), the Orange County Transportation Authority (OCTA), the North San Diego County Transit Development Board (NCTD), the San Diego Metropolitan Transit Development Board (MTDB), the San Diego Association of Governments (SANDAG) and Amtrak all play critical roles in the ownership, planning, operation or maintenance of the Los Angeles to San Diego corridor. All these organizations are actively involved in reviewing the products of this study to determine consistency with their ongoing efforts.

### Who do I Contact for More Information?

California High-Speed Rail Authority  
Dan Leavitt, Deputy Director  
dleavitt@hsr.ca.gov  
(916) 324-1541

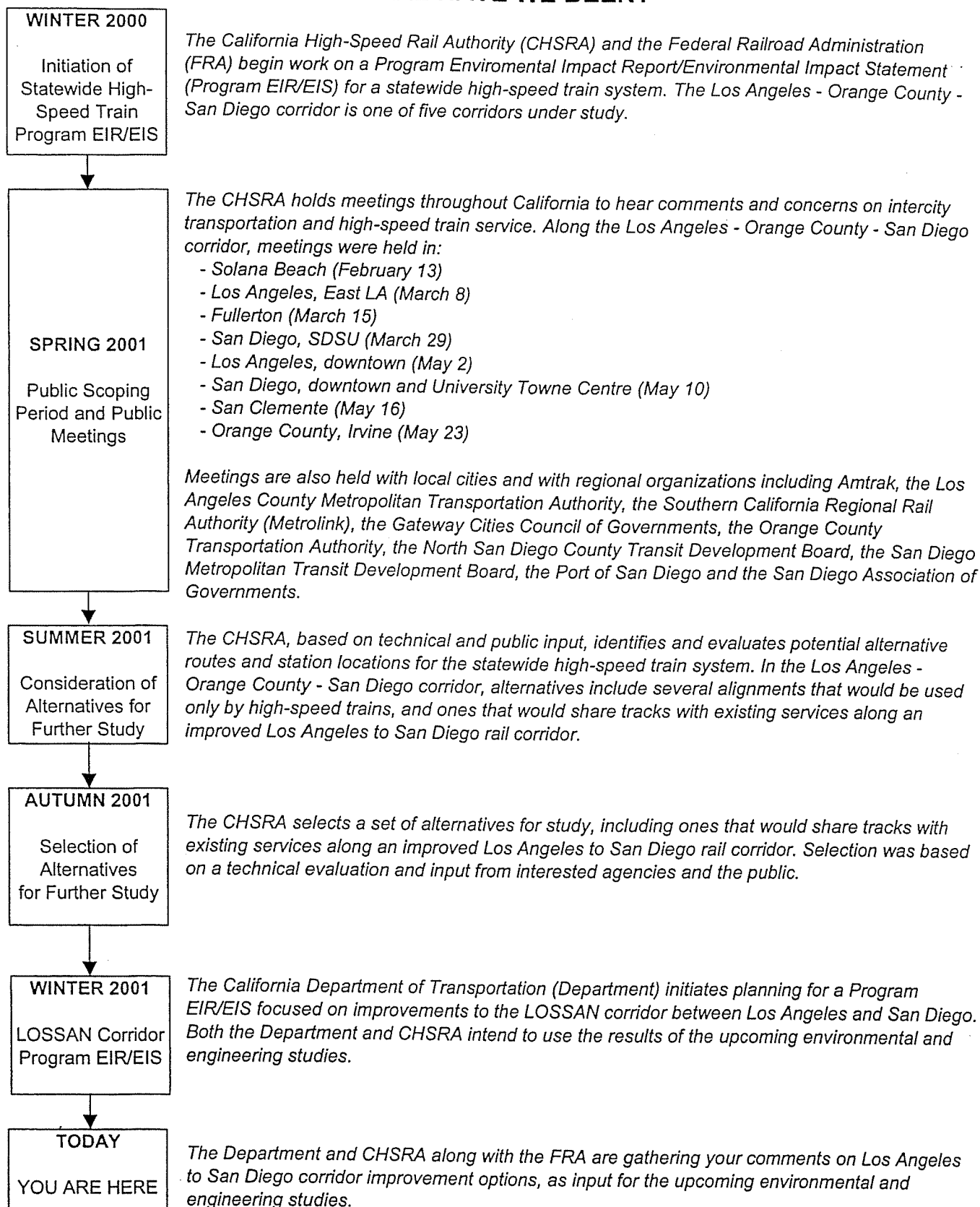
California Department of Transportation  
Patrick Merrill, Manager, Capital Projects, South  
Patrick\_Merrill@dot.ca.gov  
(916) 654-7543

Federal Railroad Administration  
David Valenstein, Environmental Program  
Manager, David.Valenstein@fra.dot.gov  
(202) 493-6368

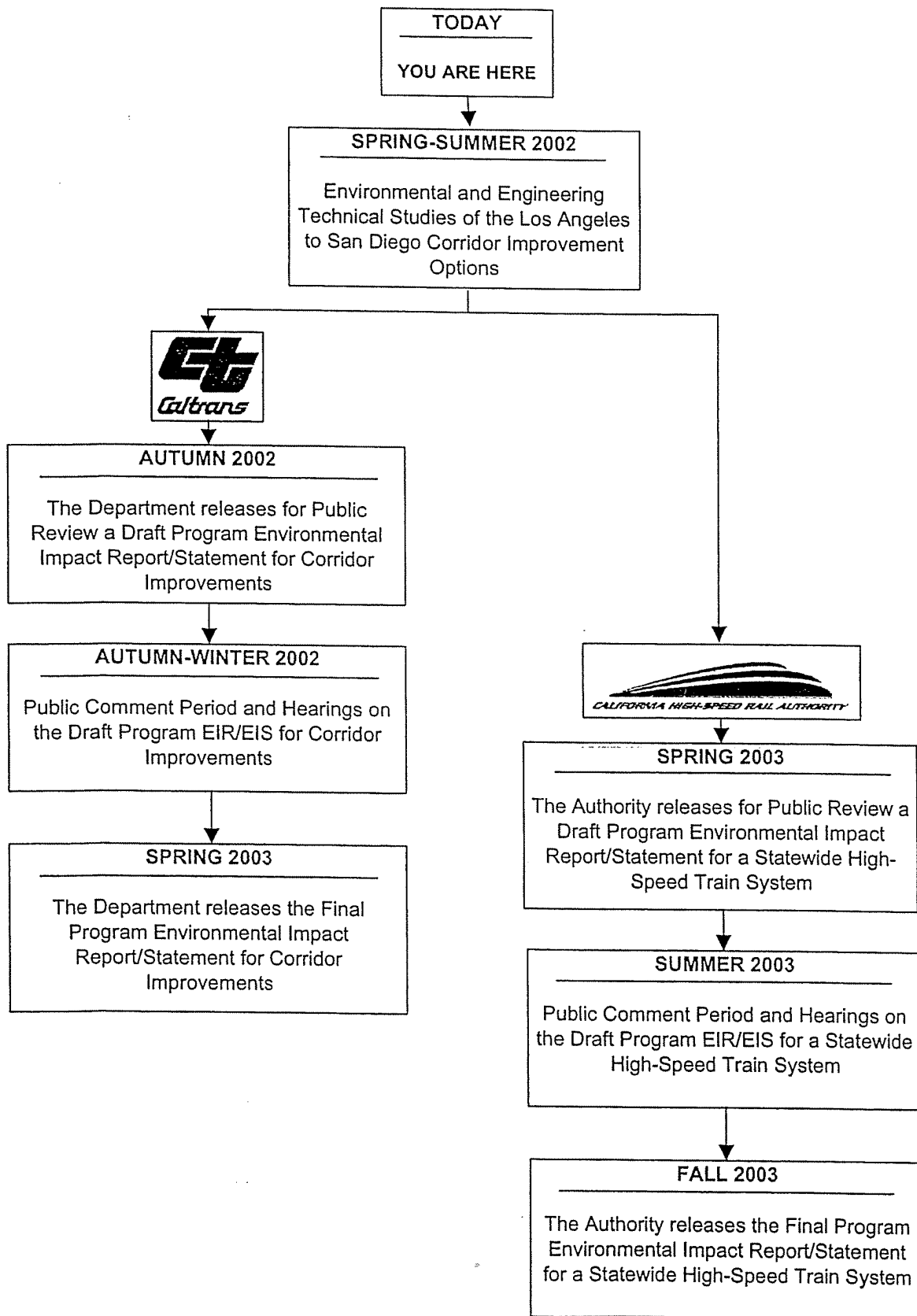
IBI Group  
Steve Schibuola, Consultant Project Manager  
sschibuola@ibigroup.com  
(949) 833-5588



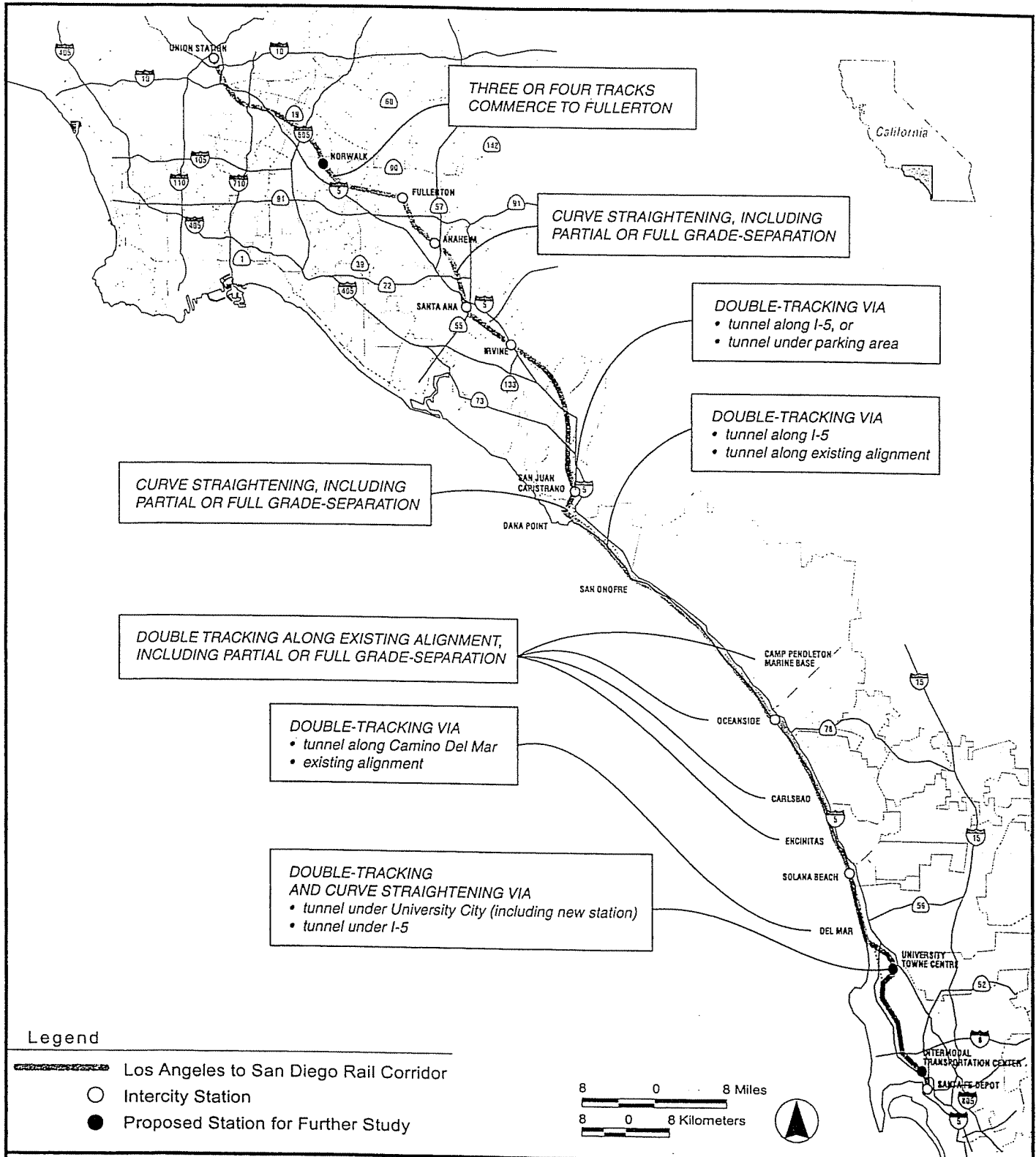
## WHERE HAVE WE BEEN?



## WHERE ARE WE GOING?



# STUDY AREA FOR LOS ANGELES TO SAN DIEGO RAIL CORRIDOR



## CORRIDOR-WIDE IMPROVEMENTS PROPOSED FOR STUDY

- Express tracks at all stations
- Upgrade at existing Amtrak stations
- Partial or full grade-separation



## LOS ANGELES TO SAN DIEGO RAIL CORRIDOR IMPROVEMENTS TECHNICAL STUDY

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### ALIGNMENT DESCRIPTIONS

#### Los Angeles County

This study will consider the feasibility of an additional fourth main track from Hobart to Fullerton. In addition, general station improvements and possible grade-separations will also be considered in this technical study.

#### Orange County

Throughout Orange County, general station improvements and possible grade-separations will be considered in this technical study. In addition, the following site-specific options will be studied:

*Orange-Santa Ana* – The potential to realign the curve at the Orange Junction to improve travel times will be studied. Due to land use constraints in this area and the density of major street crossings, alternative profiles and grade-separations will be considered.

*San Juan Capistrano* – Through San Juan Capistrano, two alternative alignments will be studied to route the tracks around the historic downtown area. One alternative will depress the alignment and tunnel immediately to the east of the existing track in the parking area, allowing for the addition of a second main track. The second alternative looks at the feasibility of routing the tracks around the downtown, by tunneling the alignment under Interstate 5.

*Dana Point* – Due to the sharp radius and the subsequent reduced speed through the curve in Dana Point, an alternative will be studied that widens the radius of the curve. This alternative would also include the double tracking of the corridor and allow for increased speeds around the curve. A potential tunnel under Pacific Coast Highway (PCH) will also be studied.

*San Clemente* – Two alignments through San Clemente will be looked at in this technical study. The first alternative that will be studied looks at realigning the rail line inland from the coast and tunneling under the right-of-way of Interstate 5. This alignment would also be double tracked and would join the existing right-of-way again in San Onofre. The second alignment option is grade-separation, using cut-and-cover techniques, and the addition of a second track along the existing right-of-way, which travels along PCH and the beach from Dana Point to the San Diego County line.

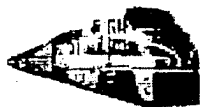
#### San Diego County

General station improvements and possible grade-separations will also be considered in this segment of the technical study. In addition, the following site-specific options will be studied:

*Complete Double-Tracking through San Diego County* – The double tracking through the county would be investigated where a single track currently exists and where there are no current plans to implement a second track. The segments that would be studied include: Camp Pendleton, Carlsbad, Encinitas, Del Mar, Sorrento Valley, and south from Rose Canyon to Old Town.

*Double Tracking through Oceanside, Carlsbad and Encinitas* – Due to the location of the alignment in Oceanside and Carlsbad, alternative profiles and/or additional grade-separations will be examined. Through the City of Encinitas, two options are being considered for double-tracking the alignment. One option looks at adding a second track along the existing alignment at-grade. The second option is to trench, or partially trench, the corridor through the city, in addition to adding a second main track.

*Del Mar Bluffs* – Taking into account the environmentally sensitive bluffs along the coast in the City of Del Mar, two alternatives will be studied. One alternative looks at removing the right-of-way from the bluffs and redirecting it through a tunnel under Camino Del Mar. A second alternative will study the feasibility of adding a second main track along the existing corridor, while at the same time stabilizing the bluffs to prevent further environmental degradation and erosion.



## LOS ANGELES TO SAN DIEGO RAIL CORRIDOR IMPROVEMENTS TECHNICAL STUDY

*Tunnel under Miramar Hill* – To improve travel times through Sorrento Valley, Miramar and Rose Canyon, two tunnel alignments will be studied. The first alternative looks at tunneling under the right-of-way of Interstate 5, bypassing Miramar and Rose Canyon altogether. The second alternative will study an alignment that tunnels under University Towne Centre (UTC). This alignment would cut directly from Sorrento Valley to Rose Canyon under UTC. A new station at UTC would be considered along this alternative, which would provide a station between downtown San Diego and Solana Beach.

### What is a “No-Build” Alternative?

The “no-build” alternative is defined to serve as the baseline for comparison of all alternatives analyzed in a draft environmental document. The no-build alternative addresses the geographic area serving the same intercity travel market as the proposed project or program. In the course of the ongoing planning and environmental review efforts, the Authority, the Department and the FRA will take into account projects being planned by other agencies, including the following:

Southern California Regional Rail Authority		North San Diego County Transit Development Board
Los Angeles County	Orange County	San Diego County
<ul style="list-style-type: none"><li>• Run through tracks at L.A. Union Station</li><li>• Continuous third main track from Union Station to Fullerton</li></ul>	<ul style="list-style-type: none"><li>• Double tracking along Lincoln Avenue in Santa Ana</li></ul>	<ul style="list-style-type: none"><li>• Partial double tracking between San Onofre and Oceanside</li><li>• Addition of a second main track in Oceanside</li><li>• Double tracking at Miramar Hill</li></ul>

Appendix D  
**Notice of Preparation  
Proposed Improvements  
to the Rail Corridor Extending  
from Los Angeles to San Diego  
via Orange County**

DEPARTMENT OF TRANSPORTATION

DIVISION OF RAIL

1120 N STREET

P. O. BOX 942874 — MS 74

SACRAMENTO, CA 94274-0001

PHONE (916) 653-3060

FAX (916) 653-4565



*Flex your power!  
Be energy efficient!*

March 15, 2002

To: Interested Public Agencies and Other Parties

From: California Department of Transportation  
Division of Rail

Re: Notice of Preparation (NOP)

The California Department of Transportation (Department), with the Federal Railroad Administration (FRA) will prepare a Program Environmental Impact Report (EIR) and Program Environmental Impact Statement (EIS) for passenger rail corridor improvements extending from Los Angeles to San Diego, via Orange County (also known as the LOSSAN Rail Corridor). Recipients of the NOP have 30 days after receipt of this notice to submit written comments to the Department. We would appreciate if you would distribute the attached NOP to your staff person responsible for reviewing and responding to environmental documents.

Should you have any questions or wish additional information, please contact Patrick Merrill at (916) 654-7543, or at [Patrick\\_Merrill@dot.ca.gov](mailto:Patrick_Merrill@dot.ca.gov).

SCH #2002031067

## NOTICE OF PREPARATION

TO: Interested Public Agencies FROM: Warren Weber  
And Other Parties Chief, Division of Rail California  
Department of Transportation

P.O. Box 942874, MS 74  
Sacramento, California 94274-0001

**SUBJECT:** Notice of Preparation (NOP) of a Draft Program Environmental Impact Report / Environmental Impact Statement (Program EIR/EIS) for Proposed Improvements to the Rail Corridor Extending from Los Angeles to San Diego via Orange County; References: Division 13, Public Resources Code, Section 21080.4 (CEQA) and 40 Code of Federal Regulations 1501.7 and 1508.22 (NEPA).

This is to inform you that the California Department of Transportation (Department) is the Lead Agency for the CEQA process for proposed Los Angeles-Orange County-San Diego (LOSSAN) Rail Corridor Improvements. The Department has determined that it would be appropriate to prepare a Program EIR/EIS for improvements to the existing rail corridor at this stage of planning and decision-making, which would involve defining and evaluating alternative technologies, corridor modifications, station improvements, and phasing options. Later stages of project development will include project-specific detailed environmental documents to assess the impacts of the alternatives in those segments of the system identified for implementation.

This NOP initiates the CEQA process. Scoping meetings are scheduled for:

Los Angeles on April 2, 2002, 1:30 pm to 3:30 pm at the Los Angeles County Metropolitan Transportation Authority, One Gateway Plaza, Union Station Room #108

San Clemente on April 2, 2002, 6:00 pm to 8:00 pm, at the San Clemente Inn, 2600 Avenida del Presidente

Anaheim on April 3, 2002, 10:00 am to 12:00 pm, City Hall West, 201 South Anaheim Boulevard, Gordon Hoyt Conference Center

Carlsbad on April 3, 2002, 6:00 pm to 8:00 pm, Carlsbad Senior Center, 799 Pine Street and

Santa Ana on April 9, 2002, 6:00 pm to 8:00 pm, Santa Ana Rail Station, 1000 Santa Ana Boulevard, Logan Room, 5<sup>th</sup> Floor

Additional agency and public meetings are planned along the 130-mile corridor in Los Angeles, Orange County and San Diego. Public notice will be provided separately with the dates, times, and locations of these additional meetings.



The technical studies needed for this Program EIR/EIS are being conducted through a partnership with the California High-Speed Rail Authority (Authority) – a State agency preparing a Program EIR/EIS for a proposed high-speed train system extending from Sacramento, the Bay Area, through the Central Valley to Los Angeles and San Diego. The Department and the Authority, within the framework of an Agreement, will work together to develop the technical data and necessary public and agency outreach for the Department's proposed LOSSAN Rail Corridor Improvements Program EIR/EIS. LOSSAN corridor improvements are a subset of the Authority's statewide Program EIR/EIS. Both the Department and the Authority are responsible for making its own decisions, analyses, and determinations regarding the use of these studies.

The Department has invited the Federal Railroad Administration (FRA), an operating administration within the United States Department of Transportation, to serve as federal lead agency for the environmental review. The FRA has responsibility for oversight of the safety of rail passenger and freight operations across the United States, including the safety of any proposed high-speed train system. The FRA, as federal lead agency, is publishing a Notice of Intent (NOI) in the *Federal Register* announcing the agency's intention to initiate the federal environmental review process for the LOSSAN Rail Corridor Improvements. The Department expects that the information developed during the CEQA scoping process would also serve as an important component of the scoping process for the federal environmental review.

In response to this NOP, you are requested to advise the Department of the applicable permit and environmental review requirements of your agency, and the scope and content of the environmental information that is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the Program EIR/EIS prepared by our agency when considering your approvals or permits required for the project.

The need for LOSSAN rail corridor improvements is directly related to the expected growth in population and resulting increases in intercity travel demand in California over the next 20 years and beyond. As a result of this growth in travel demand, there will be increases in travel delays from the growing congestion on California's highways and at airports. In addition, there will be effects on the economy and quality of life from a transportation system that is less and less reliable as travel demand increases and deteriorating air quality in and around our metropolitan areas. The intercity highway system, and commercial airports serving the intercity travel market are currently operating at or near capacity, and will require large public investments for maintenance and expansion in order to meet existing demand and future growth. LOSSAN Rail Corridor Improvements would provide a vastly improved mode of intercity train travel that would link the Los Angeles, Orange County and San Diego major metropolitan areas; interface with mass transit, and highways; and provide added capacity to help meet increases in intercity travel demand in California in a manner sensitive to and protective of California's unique natural resources.

The Department manages and coordinates intercity rail passenger services in California. Within this role are several major activities including analyzing funding requests and recommending State funding for operating assistance and funding for capital improvement projects. For southern California, the Department provides operating funds to Amtrak for intercity passenger services, via the coast rail line, extending from San Diego to San

Luis Obispo. For the LOSSAN portion of this corridor (between Los Angeles and San Diego), Amtrak currently operates 11 daily round-trip trains.

As part of the State's ongoing efforts to improve intercity rail services, the Department contracts with railroads and local agencies to build and improve the rail infrastructure for stations, tracks, signal systems and related rail components. Funding for capital projects has been utilized to increase speeds, replace worn track and structures, add passing sidings and second main track, improve safety and operational efficiencies, and to modernize the rail system. The overall goal is to improve mobility in this congested part of the State by decreasing trips times and improving the rail system in a cost-effective manner.

Alternatives to be evaluated and analyzed in the Program EIR/EIS include: (1) take no action (No-Project or No-Build), (2) improvement of the existing steel-wheel-on-steel-rail train system and stations, and (3) modal alternatives that would include highway, and air transportation improvements (see Attachment A – Alternatives Description). Possible environmental impacts include displacement of commercial and residential properties; disproportionate impacts to minority and low-income populations; community and neighborhood disruption; increased noise, vibration, and electro-magnetic interference along rail corridors; traffic impacts associated with stations; effects to historic properties or archaeological sites; impacts to parks and recreation resources; visual quality effects; exposure to seismic and flood hazards; impacts to water and coastal resources, wetlands, and sensitive biological species and habitat; land use compatibility impacts; energy use; air quality; construction impacts; and impacts to public safety.

Due to the time limits mandated by state law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice. We invite your suggestions about the range of alternatives and the potential impacts to be addressed in the Program EIR/EIS. See Attachment B – Program EIR/EIS Schedule for our 1.5-year process.

Please send your response and direct any comments or questions regarding this project to Patrick Merrill, Corridor Manager, California Department of Transportation, Division of Rail at the address shown above.

Date: March 15, 2002

Signature: Original Signed By  
WARREN WEBER  
Chief  
Division of Rail

## **ATTACHMENT A – ALTERNATIVES DESCRIPTION**

The Department has determined that passenger rail improvements to the existing LOSSAN rail corridor may be necessary to meet the expected growth in population and resulting increases in intercity travel demand between Los Angeles and San Diego. As a result of this growth in demand, there will be increases in travel delays from the growing congestion on California's highways and at airports. The Department will prepare a Program Environmental Impact Report (EIR) and Environmental Impact Statement (EIS) with the Federal Railroad Administration (FRA). As part of the Program EIR/EIS, the proposed project will be considered in the context of the overall transportation system and environment in California. In the Program EIR/EIS, a number of overall system alternatives will be considered and evaluated. A range of alternatives will be presented and evaluated in detail in the Draft Program EIR/EIS including a No-Build Alternative, LOSSAN Rail Corridor Improvement Alternatives, and Hybrid Modal Alternatives (highway emphasis and aviation emphasis). The system alternatives evaluation will consider a reasonable range of system alternatives at a broad level of analysis in order to move efficiently toward more detailed consideration of the most practical and feasible alternatives in the Program EIR/EIS.

### **NO-BUILD ALTERNATIVE**

The take no action (No-Project or No-Build) alternative is defined to serve as the baseline for comparison of all alternatives. The No-Build Alternative represents the state's transportation system (highway, air, and rail) as it exists and as it would exist after implementation of programs or projects currently being implemented. The "No-Build" Alternative addresses the geographic area serving the same intercity travel market as the LOSSAN Rail Corridor Improvements (from Los Angeles to San Diego via Orange County). The No-Build Alternative satisfies the statutory requirements under CEQA and NEPA for an alternative that does not include any new action or project beyond what is already committed.

The No-Build Alternative would draw upon the following sources of information:

- State Transportation Improvement Program (STIP)
- Regional Transportation Plans (RTPs) for all modes of travel
- Airport plans
- Passenger rail plans

### **LOSSAN RAIL CORRIDOR IMPROVEMENTS ALTERNATIVES**

The LOSSAN rail corridor extends from Los Angeles to San Diego via Orange County. In terms of passenger volumes, the LOSSAN corridor is Amtrak's second-busiest corridor in the nation, after the Northeast Corridor connecting Washington D.C., New York and Boston. It is used by Amtrak for the State-supported Pacific Surfliner Service between Los Angeles and San Diego, by the Southern California Regional Rail Authority for its Metrolink commuter rail service between Los Angeles and Oceanside, and by the North

County Transit District for its Coaster commuter rail service. Burlington Northern Santa Fe Railway (BNSF) also uses the corridor for freight service.

The LOSSAN Rail Corridor Improvements are conventional rail upgrades to the LOSSAN corridor. The upgrade of the LOSSAN rail corridor was previously studied in the Amtrak 20-Year Passenger Transportation Plan, which identified major improvements located between San Juan Capistrano and the Santa Fe Depot in downtown San Diego. These improvements and others will be considered in the Program EIR/EIS including:

- Completion or substantial completion of a second main track in the LOSSAN corridor
- The consideration of alternative profiles (e.g. trenches, tunnels, viaducts) and/or deviations from the existing LOSSAN corridor in:
  - San Juan Capistrano
  - San Clemente
  - Encinitas
  - Del Mar
  - Miramar Hill
- Curve realignment at the Fullerton Junction, the Orange Junction and Dana Point
- In addition, an improvement that has drawn much interest from the BNSF and others: the 4-tracking of the corridor between Commerce and Fullerton.

Also, as developed through the community input process that will be undertaken as the alternatives are further developed, alternative profiles (e.g. trenches, tunnels, viaducts), deviations from the existing LOSSAN corridor and/or additional grade-separations will need to be examined as potential mitigation treatments in:

- Orange-Santa Ana
- Oceanside
- Carlsbad.

The LOSSAN rail corridor is illustrated on Figure A-1.

## Stations

The Department will be studying all stations used by the existing State-supported Amtrak Surfliner service for LOSSAN Rail Corridor Improvements. These are: LA Union Station, Fullerton, Anaheim, Santa Ana Transportation Center, Irvine Transportation Center, San Juan Capistrano, San Clemente, Oceanside Transportation Center, Solana Beach, and San Diego Santa Fe Depot. Additional stations and improvements needed to existing stations will be determined based on ridership potential, system-wide needs, and local planning constraints/conditions. Station needs will be coordinated with local and regional planning agencies, and will provide for seamless connectivity with other modes of travel. Potential additional station locations to be evaluated in the Program EIR/EIS include: San Diego Airport, and University Town Center (La Jolla).

The LOSSAN Rail Corridor extends through the following counties: Los Angeles, Orange and San Diego.

## OTHER MODAL ALTERNATIVES

*"Caltrans improves mobility across California"*

There are currently only three main options for intercity travel between the major urban areas of Los Angeles, Orange County, and San Diego: vehicles on the interstate highway system and state highways, commercial airlines serving airports between Los Angeles and San Diego, and conventional passenger trains on freight and/or commuter rail tracks.

The Department will evaluate a set of Modal/System Alternatives consisting of expansion of highways and airports serving the markets identified for the LOSSAN Rail Corridor at a similar level of investment. The modal alternatives will be defined by assigning the expected incremental travel demand forecasted for the 20 year horizon to the state's transportation infrastructure, then identifying alternatives for accommodating that travel demand without LOSSAN Rail Corridor Improvements.

Figure A

# LOSSAN Corridor

**Pacific Surfliner  
Route**

Los Angeles  
Anaheim  
Irvine  
San Clemente  
Solana Beach  
Fullerton  
Santa Ana  
San Juan Capistrano  
Oceanside  
San Diego

lossancorridor DOR:rlf 3.12.2003

The LOSSAN Rail Corridor extends through the following counties: Los Angeles, Orange, and San Diego.

**ATTACHMENT B**  
**PROGRAM EIR/EIS SCHEDULE**

**AUTUMN 2002**

The Department releases for Public Review  
a Draft Program Environmental Impact  
Report/Statement for Corridor  
Improvements

**AUTUMN-WINTER 2002**

Public Comment Period and Hearings on  
the Draft Program EIR/EIS for Corridor  
Improvements

**SPRING 2003**

The Department releases the Final  
Program Environmental Impact  
Report/Statement for Corridor  
Improvements

**Appendix E**  
**California Intercity**  
**Rail Capital Program**  
**Pacific Surfliner Route – South Only**



# **INTERCITY RAIL CAPITAL PROGRAM**

## **Section A2: Pacific Surfliner Route - South**

Los Angeles-San Diego

INTERCITY RAIL CAPITAL PROGRAM										
Section A2: Pacific Surfliner Route - South										
Los Angeles-San Diego										
ID No.	Project Summary	County	Funding Source	Funding Year	Amount	Project Approval		Project Allocation		Project Complete
						Res. No.	Date	Res. No.	Date	
STATION PROJECTS										
	LOS ANGELES Union Station Improvements	Los Angeles	TP&D-PVEA	1988-89	\$ 200,000	1988 Budget Act	7/8/88	MT-89-28	4/20/89	✓
	LOS ANGELES Union Station Improvements	Los Angeles	LACTC	1988-89	\$ 100,000	Item No. 266D-301-046				✓
	LOS ANGELES Union Station Improvements	Los Angeles	AT&SF	1988-89	\$ 100,000					✓
	Conduct feasibility study and prepare preliminary design engineering for station upgrade	Los Angeles	Amtrak	1992-93	\$ 367,929	Amtrak 93-044	1993	Amtrak 93-044	1993	✓
	LOS ANGELES Union Station Improvements	Los Angeles	Amtrak	1992-93	\$ 150,000	Amtrak 93-142	1993	Amtrak 93-142	1993	✓
	Improve baggage handling facilities and purchase four tractors	Los Angeles	Amtrak	1992-93	\$ 8,000,000	G-93-12	8/5/93	FP-93-45	6/1/94	✓
	LOS ANGELES Union Station Gateway	Los Angeles	STP-TEA	1993-94	\$ 2,335,000					✓
	LOS ANGELES Union Station Gateway	Los Angeles	LACMTA	1993-94	\$ 11,600,000					✓
	LOS ANGELES Union Station Gateway	Los Angeles	STP-TEA	1994-95	\$ 1,557,000					✓
	LOS ANGELES Union Station Gateway	Los Angeles	LACMTA	1994-95	\$ 182,448	G-94-05	3/30/94	FP-93-45	6/1/94	✓
	Construct Gateway Intermodal Transit Center Including stone paving, arcades, landscaping and glass dome	Los Angeles	MCIP-TP&D	1994-95	\$ 50,000	MFP-94-44	3/30/95	MFP-94-44	3/30/95	✓
	LOS ANGELES Union Station Improvements	Los Angeles	Amtrak	1995-96	\$ 4,377,111	Amtrak 96-208	1996	Amtrak 96-208	1996	✓
	Design first-class lounge	Los Angeles	Catellus	1995-96	\$ 156,000	Amtrak 96-223	1996	Amtrak 96-223	1996	✓
	LOS ANGELES Union Station Improvements	Los Angeles	Amtrak	1995-96	\$ 47,300	Caltrans	4/17/97	Caltrans	4/17/97	✓
	Relocate Amtrak offices, including heating, ventilation and air conditioning	Los Angeles	MCIP-TP&D	1996-97	\$ 42,262	Caltrans	3/4/98	Caltrans	3/4/98	✓
	Purchase two baggage tow tractors	Los Angeles	MCIP-PTA	1997-98	\$ 2,831	Caltrans	8/12/98	Caltrans	8/12/98	✓
	Upgrade public address speakers	Los Angeles	MCIP-PTA	1997-98	\$ 2,930	Caltrans	8/12/98	Caltrans	8/12/98	✓
	LOS ANGELES Union Station Improvements	Los Angeles	MCIP-PTA	1997-98	\$ 650,000					✓
	Install security doors for storage racks	Los Angeles	Catellus	1997-98	\$ 324,000					✓
	Purchase announcement player	Los Angeles	Catellus	1997-98	\$ 2,998,000					✓
	LOS ANGELES Union Station Improvements	Los Angeles	Catellus	1997-98	\$ 133,000					✓
	Construct TRAXX Restaurant	Los Angeles	Catellus	1997-98	\$ 1,124,000					✓
	Install graphics and monument signage at Alameda Street entrance	Los Angeles	Catellus	1997-98						✓
	Restore, reconfigure and improve station exterior. Including reconfigure and expand south parking and entrance roadway from Alameda Street, relandscape north courtyard and station front with 60 new palm trees, new lighting, new site furnishings and exterior signage	Los Angeles	Catellus	1997-98						✓
	LOS ANGELES Union Station Improvements	Los Angeles	Catellus	1997-98						✓
	Reconfigure loop road including relocated parking kiosks	Los Angeles	Catellus	1997-98						✓
	LOS ANGELES Union Station Improvements	Los Angeles	Catellus	1997-98						✓
	Renovate, repair and replace station utilities, including electrical system, architectural lighting in main waiting room, ventilation system, water, fire and sewer lines	Los Angeles	Catellus	1997-98						✓
	LOS ANGELES Union Station Improvements	Los Angeles	Catellus	1997-98						✓

• . Indicates this funding source was split into two or more projects  
Section A2

# **INTERCITY RAIL CAPITAL PROGRAM**

## **Section A2: Pacific Surfliner Route - South**

Los Angeles-San Diego

ID No.	Project Summary	County	Funding Source	Funding Year	Amount	Project Approval		Project Allocation		Project Complete
						CTC Res. No.	Date	CTC Res. No.	Date	
	<b>LOS ANGELES Union Station Improvements</b>	Los Angeles	GASF	1997-98	\$ 30,000	GASF	10/30/97	GASF	10/30/97	
	Design improvement plans for passenger tunnel, main entry, and lobby									
	<b>LOS ANGELES Union Station Improvements</b>	Los Angeles	FTA-45309	1998-99	\$ 1,240,625					
		Los Angeles	Catellus	1998-99	\$ 310,156					
	<b>LOS ANGELES Union Station Improvements</b>	Los Angeles	FTA-45309	1999-00	\$ 1,226,369					
		Los Angeles	Catellus	1999-00	\$ 306,592					
	<b>LOS ANGELES Union Station Improvements</b>	Los Angeles								
	Renovate station including cleaning ceiling, updating electrical and HVAC systems; upgrade pedestrian tunnel with lighting and signage improvements; relocate and upgrade restrooms, in compliance with ADA standards; restore courtyard landscaping to original plan.									
	<b>LOS ANGELES Union Station Improvements</b>	Los Angeles	ITIP-SHA	2001-02	\$ 600,000	G-00-32 2000 STIP	12/6/00	MFP-01-21	6/13/02	
	Prepare environmental documentation and engineering to modify ADA compliant wheel chair ramps between pedestrian subway and platform after certain tracks are raised for run-through project									
	<b>LOS ANGELES Union Station Improvements</b>	Los Angeles	Local	2001-02	\$ 250,000					
	Regrade walkways and apply gravel at selected locations									
	<b>LOS ANGELES Union Station Improvements</b>	Los Angeles	Local	2001-02	\$ 512,000					
	Install display monitors, move supervisor's shelter, renovate information booth, and replace flip-disk display boards with smaller electronic display boards									
	<b>LOS ANGELES Union Station Improvements</b>	Los Angeles	MCIP-PTA	2001-02	\$ 21,869	Caltrans	6/12/02	Caltrans	6/12/02	
	Upgrade classroom facility for safety and operating rules training									
	<b>LOS ANGELES Union Station</b>	Orange	TOTAL ALL PROJECTS		\$ 30,997,422	MT-88-21 As amended by Resolution G-88-15 (10/7/1988)	3/24/88	FMT-89-3	11/18/88	✓
9027	<b>FULLERTON Station</b>	Orange	TCL-SHA	1988-89	\$ 800,000					✓
	<b>FULLERTON Station</b>	Orange	City	1988-89	\$ 365,006					✓
	Purchase Santa Fe Depot									✓
	<b>FULLERTON Station Improvements</b>	Orange	TCL-TP&D	1983-84	\$ 2,172,999	1983 STIP		MT-84-9 Allocation was for \$2,173,000	9/22/83	✓
	<b>FULLERTON Station Improvements</b>	Orange	City	1983-84	\$ 1,001,126					✓
	Construct 290 space 4-level parking structure									✓
	<b>FULLERTON Station Improvements</b>	Orange	TP&D-PVEA	1988-89	\$ 500,000	1988 Budget Act Item No. 2660-301-046	7/8/88	MT-89-28	4/20/89	✓
	<b>FULLERTON Station Improvements</b>	Orange	City	1988-89	\$ 578,670					✓
	Construct north platform improvements: 900 foot platform, with shelter, landscaping, signage, and lighting									✓
9027	<b>FULLERTON Station Improvements</b>	Orange	TCL-TP&D	1989-90	\$ 1,200,000	MT-89-10	3/23/89	MT-90-3	8/24/89	✓
9514	<b>FULLERTON Station Improvements</b>	Orange	TCL-SHA	1992-93	\$ 280,000	MT-92-1	3/19/92	MFP-93-25	9/8/93	✓
	<b>FULLERTON Station Improvements</b>	Orange	City	1992-93	\$ 1,566,844					✓
	Construct 900 foot south platform: shelter, lighting, pedestrian bridge and parking									✓
9524	<b>FULLERTON Station Improvements</b>	Orange	TCL-TP&D	1993-94	\$ 150,000	G-93-05	3/31/93	MFP-93-16	8/5/93	✓
	Expand restrooms, waiting room, ticketing, baggage facilities and storage									✓
	<b>FULLERTON Station Improvements</b>	Orange	PEAF	1994-95	\$ 40,000	Caltrans	10/19/94	Caltrans	10/19/94	✓
	Acquire baggage handling equipment									✓
	<b>FULLERTON Station continued on next page</b>									

• - Indicates this funding source was split into two or more projects  
Section A2

# INTERCITY RAIL CAPITAL PROGRAM

## Section A2: Pacific Surfliner Route - South

Los Angeles-San Diego

ID No.	Project Summary	County	Funding Source	Funding Year	Amount	Project Approval		Project Allocation		Project Complete
						Res. No.	Date	Res. No.	Date	
	<b>FULLERTON Station Improvements</b>	Orange	TCL-TP&D	1996-97	\$ 39,317	G-96-05	3/28/96	MFP-96-04	7/11/96	✓
	<b>FULLERTON Station Improvements</b>	Orange	City	1996-97	\$ 1,776,385					✓
	<b>FULLERTON Station Improvements</b>	Orange	TCL-TP&D	1997-98	\$ 150,000	G-97-03	4/2/97	MFP-97-37	10/30/97	✓
	Construct 180 additional surface parking space, including improvements to the existing lot, sidewalks, landscaping, irrigation, lighting, fencing and bicycle lockers									
	<b>FULLERTON Station Improvements</b>	Orange	City	1996-97	\$ 109,133					✓
	Construct two passenger shelters on north platform									
	<b>FULLERTON Station Improvements</b>	Orange	City	1996-97	\$ 60,872					✓
	Repair exterior of station building. Including repainting and restoration to original condition									
	<b>FULLERTON Station Improvements</b>	Orange	City	1997-98	\$ 90,000					✓
	Construct rail spur track to serve station for special train and car movements									
	<b>FULLERTON Station Improvements</b>	Orange	MCIP-PTA	1998-99	\$ 14,915	Caltrans	9/13/99	Caltrans	9/13/99	✓
	Install security system									
	<b>FULLERTON Station Improvements</b>	Orange	ITIP-SHA	1998-99	\$ 75,195	*G-98-08 1998 STIP	6/2/98	*MFP-98-18	2/17/99	✓
	Construct ADA improvements including renovation of ramps, installation of striping and new signage									
	<b>FULLERTON Station Improvements</b>	Orange	MCIP-PTA	2000-01	\$ 3,600	Caltrans	9/21/01	Caltrans	9/21/01	✓
	Purchase baggage trailer									
	<b>FULLERTON Station Improvements</b>	Orange	MCIP-PTA	2000-01	\$ 1,213	Caltrans	9/21/01	Caltrans	9/21/01	✓
	Replace carpeting in ticket office									
	<b>FULLERTON Station Improvements</b>	Orange	MCIP-PTA	2000-01	\$ 750	Caltrans	9/21/01	Caltrans	9/21/01	
	Install a backup power system for security cameras					G-02-04 2002 STIP	4/4/02			
	<b>FULLERTON Station Improvements</b>	Orange	ITIP-SHA	2005-06	\$ 3,000,000					
	Design and construct a multi-level parking structure with 700 spaces									
	<b>FULLERTON Station</b>	Orange	TOTAL ALL PROJECTS		\$ 14,084,492					
	<b>ANAHEIM Station</b>	Orange	SB 283-TP&R	1979-80	\$ 79,228	SB 283	9/28/75	SB 283	9/28/75	✓
	Develop new station									
	<b>ANAHEIM Station</b>	Orange	IFP-TP&D	1981-82	\$ 291,014	1980 STIP		MT-81-27	4/24/81	✓
	Design new station									
	<b>ANAHEIM Station</b>	Orange	TCL-TP&D	1989-90	\$ 100,000	MT-89-10	3/23/89	MT-90-9	12/14/89	✓
	Design and construct new station, including inbound and outbound platforms, seating, canopies, stairs, utilities, fencing, accessible ramps and pedestrian undercrossing					Resolution approved \$285,000		Allocation reduced from \$285,000 to \$100,000 by Resolution MFA-91-2 (6/12/1992)		
	<b>ANAHEIM Station</b>	Orange	City	1989-90	\$ 33,333					✓
	Design passenger undercrossing									
	<b>ANAHEIM Station - Phase I</b>	Orange	TCL-TP&D	1993-94	\$ 765,000	G-93-05	3/31/93	MFP-93-37	10/13/93	✓
	<b>ANAHEIM Station - Phase II</b>	Orange	TCL-TP&D	1994-95	\$ 1,741,000	G-94-15	9/14/94	MFP-94-11	10/19/94	✓
	<b>ANAHEIM Station - Phase III</b>	Orange	TCL-TP&D	1995-96	\$ 900,000	G-95-03	3/30/95	MFP-95-08	9/19/95	✓
	Design and construct new station, including inbound and outbound platforms, seating, canopies, stairs, utilities, fencing, accessible ramps and pedestrian undercrossing									
	<b>ANAHEIM Station - Phase III</b>	Orange	City	1995-96	\$ 900,000					✓
	<b>ANAHEIM Station continued on next page</b>									

• - Indicates this funding source was split into two or more projects  
Section A2

# **INTERCITY RAIL CAPITAL PROGRAM**

## **Section A2: Pacific Surfliner Route - South** Los Angeles-San Diego

ID No.	Project Summary	County	Funding Source	Funding Year	Amount	Project Approval		Project Allocation		Project Complete
						CTC Res. No.	Date	CTC Res. No.	Date	
	<b>ANAHEIM Station Improvements</b>	Orange	MCIP-TP&D	1994-95	\$ 51,325	MFP-94-44	3/30/95	MFP-94-44	3/30/95	✓
	Paint, repair and reconfigure ticket office and waiting room; Improve lighting and install new exhaust fan									
	<b>ANAHEIM Station Improvements</b>	Orange	MCIP-PTA	1998-99	\$ 14,523	Caltrans	9/13/99	Caltrans	9/13/99	✓
	Install security system									
	<b>ANAHEIM Station Improvements</b>	Orange	ITIP-SHA	1998-99	\$ 55,756	*G-98-08 1998 STIP	6/2/98	*MFP-98-18	2/17/99	✓
	Construct ADA Improvements including renovation of ramps and walkways, installation of striping, signage, and restroom fixtures					Represents a portion of Pacific Surfliner Route share of ADA Phase III project approval and allocation of ADA Phase III project approval and allocation (\$5,340,000) for all three corridors				
	<b>ANAHEIM Station Improvements</b>	Orange	MCIP-PTA	2000-01	\$ 16,852	Caltrans	9/21/01	Caltrans	9/21/01	✓
	Replace HVAC system									
	<b>ANAHEIM Station Improvements</b>	Orange	MCIP-PTA	2000-01	\$ 638	Caltrans	9/21/01	Caltrans	9/21/01	✓
	Install a backup power system for security cameras									
	<b>ANAHEIM Station</b>	Orange	TOTAL ALL PROJECTS		\$ 4,948,669					
	<b>SANTA ANA Station</b>	Orange	IFP-TP&D	1980-81	\$ 466,400	1980 STIP		MT-81-6	8/1/80	✓
	<b>SANTA ANA Station</b>	Orange	City	1980-81	\$ 1,399,200	Represents required minimum 300% local contribution				
	<b>SANTA ANA Station</b>	Orange	IFP-TP&D	1981-82	\$ 1,924,348	1980 STIP		MT-81-25	4/24/81	✓
	<b>SANTA ANA Station</b>	Orange	IFP-TP&D	1983-84	\$ 1,765,912	1983 STIP		MT-84-7	9/22/83	✓
	<b>SANTA ANA Station</b>	Orange	City	1983-84	\$ 794,660	Resolution allocated \$2,150,000				
	<b>SANTA ANA Station</b>	Orange	City	1983-84	\$ 794,660	Represents required minimum 45% local contribution				
	Acquire site, complete plans, specifications and engineering; construct station and relocate track									
8023	<b>SANTA ANA Station Improvements</b>	Orange	TCL-SHA	1991-92	\$ 4,500,000	MT-91-21	3/21/91	MFP-91-2	10/18/91	✓
	<b>SANTA ANA Station Improvements</b>	Orange	IRR-SHA	1990-99	\$ 800,000	G-96-10 1996 STIP	5/1/96	MFP-98-01	7/15/98	✓
						SA-96S-60 (6/21/1998) redirected funds from deleted San Juan Creek Bridge Project				
9526	<b>SANTA ANA Station Improvements</b>	Orange	City	1998-99	\$ 313,655					✓
	Engineer, design and construct new 423 space parking structure, including overhead pedestrian bridge, elevators, security and street lighting, signage and landscaping									
	<b>SANTA ANA Station Improvements</b>	Orange	TCL-TP&D	1993-94	\$ 189,967	G-93-05	3/31/93	MFP-93-17	8/5/93	✓
	Repair station; Improve station security and accessibility					Resolutions approved and allocated \$202,050				
	<b>SANTA ANA Station Improvements</b>	Orange	MCIP-TP&D	1994-95	\$ 3,660	MFP-94-44	3/30/95	MFP-94-44	3/30/95	✓
	Install dining system for lights in ticket office									
	<b>SANTA ANA Station Improvements</b>	Orange	ITIP-SHA	1998-99	\$ 270,408	*G-98-08 1998 STIP	6/2/98	*MFP-98-18	2/17/99	✓
	Install ADA compliant handrails, new tiles for tactile edge of platform and safety striping, replace signage; construct parking and restroom improvements					Represents a portion of Pacific Surfliner Route share of ADA Phase III project approval and allocation (\$5,340,000) for all three corridors				
	<b>SANTA ANA Station Improvements</b>	Orange	MCIP-PTA	1999-00	\$ 4,000	Caltrans	9/12/00	Caltrans	9/12/00	✓
	<b>SANTA ANA Station Improvements</b>	Orange	City	1999-00	\$ 5,980					✓
	Replace broken tiles									
R701FB	<b>SANTA ANA Station Improvements</b>	Orange	STP-TEA	2000-01	\$ 375,000	00H-044-19 SHOPP Amendment	10/13/00	FP-00-56	1/18/01	
	<b>SANTA ANA Station Improvements</b>	Orange	City	2000-01	\$ 125,000					
	Create a 1,000 foot mural depicting local historic events along the platform									
	<b>SANTA ANA Station Improvements</b>	Orange	MCIP-PTA	2000-01	\$ 638	Caltrans	9/21/01	Caltrans	9/21/01	✓
	Install a backup power system for security cameras									
	<b>SANTA ANA Station</b>	Orange	TOTAL ALL PROJECTS		\$ 12,938,828					

• - Indicates this funding source was split into two or more projects

# **INTERCITY RAIL CAPITAL PROGRAM**

## **Section A2: Pacific Surfliner Route - South**

Los Angeles-San Diego

ID No.	Project Summary	County	Funding Source	Funding Year	Amount	Project Approval		Project Allocation		Project Complete
						Res. No.	Date	Res. No.	Date	
9024	IRVINE Station	Orange	ITIP-TP&D	1981-82	\$ 2,292,000	1981 STIP		MT-82-15	4/30/82	✓
	IRVINE Station #	Orange	City	1981-82	\$ 707,884					✓
	IRVINE Station	Orange	City	1981-82	\$ 5,488,560					✓
	IRVINE Station	Orange	OCTA	1981-82	\$ 350,000					✓
	IRVINE Station	Orange	Irvin *	1981-82	\$ 1,250,000					✓
9024	IRVINE Station	Orange	Irvin Company Is a private developer			MT-89-10	3/23/89	MT-90-3	8/24/89	✓
	IRVINE Station	Orange	TCL-TP&D	1989-90	\$ 200,220		Resolutions approved and allocated \$200,000			✓
8022	IRVINE Station	Orange	City	1989-90	\$ 723,000					✓
	Design and construct multimodal transportation center, including train and bus ticket offices, parking, landscaping and flood control channels									
8022	IRVINE Station Improvements	Orange	TCL-SHA	1988-89	\$ 1,399,781	MT-88-21	3/24/88	FMT-89-2	11/18/88	✓
	Construct double track at station					As amended by Resolution G-88-15 (10/7/1988)		Resolution allocated \$1,400,000		
9525	IRVINE Station Improvements	Orange	ITIP-SHA	1988-89	\$ 51,971	G-98-08	6/2/98	MFP-98-18	2/17/99	✓
	Construct far-side platform					1998 STIP				
9538	IRVINE Station Improvements	Orange	OCTC	1988-89	\$ 1,400,000					✓
	Construct double track at station									
0A8601	IRVINE Station Improvements	Orange	TCL-TP&D	1991-92	\$ 1,136,500	MT-91-21	3/21/91	MFP-91-09	5/7/92	✓
	Construct far-side platform									
9525	IRVINE Station Improvements	Orange	TCL-TP&D	1993-94	\$ 425,000	G-93-05	3/31/93	MFP-93-18	8/5/93	✓
	Make ADA enhancements, including informational and directional signage, and replacement of manual doors with power assisted doors									
9538	IRVINE Station Improvements	Orange	TCL-TP&D	1997-98	\$ 1,288,000	G-97-03	4/2/97	MFP-97-42	12/10/97	✓
	Construct far-side platform									
0A8601	IRVINE Station Improvements	Orange	City	1997-98	\$ 175,000	98H-89	11/3/99	FP-99-30	11/3/99	✓
	Construct far-side platform					SHOPP Amendment SA-985-61 (11/3/1999) redirects funds from Merced Station				
IRVINE Station Improvements - (Proj. 1) #	IRVINE Station Improvements	Orange	ITIP-SHA	1998-99	\$ 103,744	G-98-08	6/2/98	MFP-98-18	2/17/99	✓
	Construct pedestrian overcrossing over two mainline tracks, including elevators and other amenities for ADA compliance					1998 STIP				
IRVINE Station Improvements (Proj. 2) \$	IRVINE Station Improvements	Orange	ITIP-SHA	1998-99	\$ 51,971	G-98-08	6/2/98	MFP-98-18	2/17/99	✓
	Construct ADA compliant boarding ramps, handrails, ramp renovations, platform upgrades, and parking					1998 STIP				
IRVINE Station Improvements	IRVINE Station Improvements	Orange	MCIP-PTA	1998-99	\$ 14,523		Represents a portion of Pacific Surfliner Route share of ADA Phase III project approval and allocation (\$5,340,000) for all three corridors			✓
	Install security system									
IRVINE Station Improvements	IRVINE Station Improvements	Orange	MCIP-PTA	2000-01	\$ 638	Caltrans	9/13/99	Caltrans	9/13/99	✓
	Install a backup power system for security cameras					Caltrans	9/21/01	Caltrans	9/21/01	✓
TOTAL ALL PROJECTS					\$ 21,508,792					

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Section A2

# INTERCITY RAIL CAPITAL PROGRAM

## Section A2: Pacific Surfliner Route - South

Los Angeles-San Diego

ID No.	Project Summary	County	Funding Source	Funding Year	Amount	Project Approval CTC		Project Allocation CTC		Project Complete
						Res. No.	Date	Res. No.	Date	
9016B	SAN JUAN CAPISTRANO Station Improvements Construct 8 inch above top of rail platform adjacent to the new parking garage	Orange	TCL-TP&D	1991-92	\$ 275,000	MT-91-21	3/21/91	MFP-91-5	1/16/92	✓
	SAN JUAN CAPISTRANO Station Improvements Improve existing south station platform	Orange	PEAF	1992-93	\$ 185,000					✓
	SAN JUAN CAPISTRANO Station Improvements Relocate ticket counter and enlarge ticket office and waiting room; replace broken skylights and security safe door frame	Orange	MCIP-TP&D	1994-95	\$ 41,340	MFP-94-44	3/30/95	MFP-94-44	3/30/95	✓
	SAN JUAN CAPISTRANO Station Improvements Install security system	Orange	MCIP-PTA	1998-99	\$ 14,523	Caltrans	9/13/99	Caltrans	9/13/99	✓
	SAN JUAN CAPISTRANO Station Improvements Install a backup power system for security cameras	Orange	MCIP-PTA	2000-01	\$ 638	Caltrans	9/21/01	Caltrans	9/21/01	✓
	SAN JUAN CAPISTRANO Station SAN CLEMENTE PIER Station Design and construct improvements to bring rail passenger platform to bring up to ADA requirements including installation of mini-high platform Amtrak serves San Clemente Pier only during the summer season	Orange	TOTAL ALL PROJECTS TIP-SHA	1998-99	\$ 516,501 \$ 100,005	•G-98-08 1998 STIP Represents a portion of Pacific Surfliner Route share of ADA Phase III project approval and allocation (\$5,340,000) for all three corridors	6/27/98	•MFP-98-18	2/17/99	✓
	SAN CLEMENTE PIER Station ADA design and improvements to the station platform	Orange	MCIP-PTA	1999-00	\$ 14,722	Caltrans	3/31/00	Caltrans	3/31/00	✓
	SAN CLEMENTE PIER Station OCEANSIDE Station Construct multimodal transit terminal	San Diego	TOTAL ALL PROJECTS IFP-TP&D	1990-81	\$ 114,727 \$ 2,200,000	1980 STIP		MT-81-26	4/24/81	✓
	OCEANSIDE Station Improvements Acquire property to expand parking lot	San Diego	TCL-SHA	1988-89	\$ 1,000,000	MT-88-21 As amended by Resolution G-88-15 (10/7/88)	3/24/88	FMT-89-5	11/18/88	✓
	OCEANSIDE Station Improvements Acquire property to expand parking lot	San Diego	FAU	1988-89	\$ 430,000					✓
	OCEANSIDE Station Improvements Construct second platform and pedestrian grade separation	San Diego	TP&D-PVEA	1988-89	\$ 350,000	1988 Budget Act Item No. 2660-301-046 Budget Act approved and resolution allocated \$1,420,000, of which \$1,401,359 was spent, balance spent for Oceanside Siding (\$633,065) and Sorrento Siding (\$418,294)	7/8/88	•MT-89-27	11/18/88	✓
9029	OCEANSIDE Station Improvements Acquire property and expand parking lot from 198 to 450 spaces	San Diego	Transnet	1988-89	\$ 1,724,306					✓
	OCEANSIDE Station Improvements Acquire property and expand parking lot from 198 to 450 spaces	San Diego	TCL-TP&D	1989-90	\$ 1,000,000	MT-89-10	3/23/89	MT-90-5	9/20/89	✓
	OCEANSIDE Station Improvements Acquire property and expand parking lot from 198 to 450 spaces	San Diego	Transnet	1994-95	\$ 1,881,501					✓
	OCEANSIDE Station Improvements continued on next page									

# **INTERCITY RAIL CAPITAL PROGRAM**

## **Section A2: Pacific Surfliner Route - South**

Los Angeles-San Diego

ID No.	Project Summary	County	Funding Source	Funding Year	Amount	Project Approval		Project Allocation		Project Complete
						CTC Res. No.	Date	CTC Res. No.	Date	
	OCEANSIDE Station Improvements	San Diego	MCIP-TP&D	1994-95	\$ 1,175	MFP-94-44	3/30/95	MFP-94-44	3/30/95	✓
	Repair air conditioning, lighting, and surveillance cameras									
	OCEANSIDE Station Improvements	San Diego	MCIP-TP&D	1997-98	\$ 30,900	Caltrans	11/14/97	Caltrans	11/14/97	✓
	Install electrical (solar powered) opener for baggage handling gate on platform									
	OCEANSIDE Station Improvements	San Diego	MCIP-TP&D	1997-98	\$ 59,100	Caltrans	11/14/97	Caltrans	11/14/97	✓
	Pave and stripe dirt lot to provide additional parking									
	OCEANSIDE Station Improvements	San Diego	ITIP-SHA	1998-99	\$ 61,950	G-98-08 1998 STIP	6/2/98	MFP-98-18	2/11/99	
	Install new handrails, restroom fixtures, new curb ramp, signs and striping									
	OCEANSIDE Station Improvements	San Diego	City	1999-00	\$ 400,000					
	OCEANSIDE Station Improvements	San Diego	TCRF	2001-02	\$ 385,000	TA-01-07	5/2/01	TCPD-01-07	5/22/01	
	OCEANSIDE Station Improvements	San Diego	TCRF	2003-04	\$ 315,000	TA-01-07	5/2/01			
	OCEANSIDE Station Improvements	San Diego	TCRF	2004-05	\$ 800,000	TA-01-07	5/2/01			
	OCEANSIDE Station Improvements	San Diego	FTA-5309	2004-05	\$ 2,000,000	PL 106-346	10/23/00			
	OCEANSIDE Station Improvements	San Diego	FHWA-FAU	2004-05	\$ 1,000,000					
	OCEANSIDE Station Improvements	San Diego	ITIP-SHA	2003-04	\$ 2,700,000	G-02-04 2002 STIP	4/4/02			
	OCEANSIDE Station Improvements	San Diego	RTIP-SHA	2003-04	\$ 1,300,000	G-02-04 2002 STIP	4/4/02			
	OCEANSIDE Station Improvements	San Diego	MCIP-PTA	2000-01	\$ 2,500	Caltrans	9/21/01	Caltrans	9/21/01	
	Construct 450 space parking structure									
	• Prepare environmental documentation									
	Δ - City contribution for right of way acquisition									
	OCEANSIDE Station Improvements	San Diego	MCIP-PTA	2000-01	\$ 638	Caltrans	9/21/01	Caltrans	9/21/01	✓
	Replace baggage room door motor									
	OCEANSIDE Station Improvements	San Diego	MCIP-PTA	2000-01	\$ 17,842,078	Caltrans	9/21/01	Caltrans	9/21/01	✓
	Install a backup power system for security cameras									
	OCEANSIDE Station	San Diego	TOTAL ALL PROJECTS	1993-94	\$ 653,084					
	SOLANA BEACH Station	San Diego	Transnet	1993-94	\$ 2,000,000	PA-93-36	10/13/93	BFP-93-30	11/16/93	✓
	Prepare environmental documents, and plans, specifications and estimates for new station									
8200	SOLANA BEACH Station	San Diego	Bond 116	1993-94	\$ 3,680,771	PA-94-09	4/26/94	BFP-93-38	6/1/94	✓
	SOLANA BEACH Station	San Diego	Bond 116	1993-94	\$ 3,680,771	As amended by PA-96-20 (7/11/1996) expanding scope of work		Resolution allocated \$9,500,000; balance for Lomas Santa Fe Grade Separation (\$3,219,229), and CP Stuart-CP Mesa Second Main Track (\$3,500,000)		✓
	SOLANA BEACH Station	San Diego	Amtrak	1993-94	\$ 24,080					✓
	SOLANA BEACH Station	San Diego	Transnet	1993-94	\$ 3,403,416					✓
	Construct 500 foot 8 inch above top of rail platform, parking, bus bays, station building, bicycle storage, handicapped facilities; install fare vending equipment, telephones, lighting, utilities and landscaping									
	SOLANA BEACH Station Improvements	San Diego	Transnet	1993-94	\$ 3,403,416					✓

SOLANA BEACH Station Improvements continued on next page

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Section A2

Division of Rail - 9/1/02

# INTERCITY RAIL CAPITAL PROGRAM

## Section A2: Pacific Surfliner Route - South

Los Angeles-San Diego

ID No.	Project Summary	County	Funding Source	Funding Year	Amount	Project Approval		Project Allocation		Project Complete
						CTC Res. No.	Date	CTC Res. No.	Date	
	<b>SOLANA BEACH Station</b> Install security system	San Diego	MCIP-PTA	1998-99	\$ 14,523	Caltrans	9/13/99	Caltrans	9/13/99	✓
	<b>SOLANA BEACH Station</b> Install new handrails, new curb ramp, signs and striping	San Diego	ITIP-SHA	1998-99	\$ 46,640	*G-98-08 1998 STIP Represents a portion of Pacific Surfliner Route share of ADA Phase III project approval and allocation (\$5,340,000) for all three corridors	6/2/98	*MFP-98-18	2/17/99	
	<b>SOLANA BEACH Station</b> Install a backup power system for security cameras	San Diego	MCIP-PTA	2000-01	\$ 638	Caltrans	9/21/01	Caltrans	9/21/01	✓
	<b>SOLANA BEACH Station</b> Construct 1,000 foot top of rail platform	San Diego	TOTAL ALL PROJECTS		\$ 9,823,152	Caltrans	5/25/93	Caltrans	5/25/93	✓
	<b>SAN DIEGO Station Improvements</b> Improve ticket office	San Diego	MCIP-TP&D	1992-93	\$ 40,000	Caltrans		Caltrans		
	<b>SAN DIEGO Station Improvements</b> Purchase and install platform lights	San Diego	Amtrak	1992-93	\$ 38,808	Amtrak 93-126	1993	Amtrak 93-126	1993	✓
	<b>SAN DIEGO Station Improvements</b> Install one new and upgrade two 400-amp electrical panels	San Diego	MCIP-TP&D	1996-97	\$ 34,810	Caltrans	4/4/97	Caltrans	4/4/97	✓
	<b>SAN DIEGO Station Improvements</b> Install new transformer in trench	San Diego	MCIP-TP&D	1996-97	\$ 43,365	Caltrans	4/4/97	Caltrans	4/4/97	✓
	<b>SAN DIEGO Station Improvements</b> Modify fencing to permit boarding from more than one platform concurrently	San Diego	MCIP-TP&D	1996-97	\$ 49,839	Caltrans	4/4/97	Caltrans	4/4/97	✓
	<b>SAN DIEGO Station Improvements</b> Purchase fork lift for moving supplies	San Diego	MCIP-TP&D	1996-97	\$ 6,000	Caltrans	11/14/97	Caltrans	11/14/97	✓
	<b>SAN DIEGO Station Improvements</b> Purchase announcement player	San Diego	MCIP-PTA	1997-98	\$ 8,746	Caltrans	8/12/98	Caltrans	8/12/98	✓
	<b>SAN DIEGO Station Improvements</b> Install security and surveillance system	San Diego	MCIP-PTA	1997-98	\$ 2,930	Caltrans	8/12/98	Caltrans	8/12/98	✓
	<b>SAN DIEGO Station Improvements</b> Motorize pedestrian gate	San Diego	MCIP-PTA	1998-99	\$ 6,714	Caltrans	7/23/99	Caltrans	7/23/99	✓
	<b>SAN DIEGO Station Improvements</b> Repaint water cabinets	San Diego	MCIP-PTA	1998-99	\$ 20,000	Caltrans	9/13/99	Caltrans	9/13/99	✓
	<b>SAN DIEGO Station Improvements</b> Install 1200' gravel walkway between tracks use by trainmen	San Diego	MCIP-PTA	1998-99	\$ 15,200	Caltrans	9/13/99	Caltrans	9/13/99	✓
	<b>SAN DIEGO Station Improvements</b> Renovate building	San Diego	Amtrak	1998-99	\$ 800,000	Amtrak 99-225	1998	Amtrak 99-225	1998	✓
	<b>SAN DIEGO Station Improvements</b> Upgrade restroom to comply with ADA standards, install signs and modify ticket counter	San Diego	ITIP-SHA	1998-99	\$ 60	*G-98-08 1998 STIP Represents a portion of Pacific Surfliner Route share of ADA Phase III project approval and allocation (\$5,340,000) for all three corridors	6/2/98	*MFP-98-18	2/17/99	✓
	<b>SAN DIEGO Station Improvements</b> Preliminary review of design for ADA compliant station improvements	San Diego	ITIP-SHA	1998-99	\$ 25,054	*G-98-08 1998 STIP Represents a portion of Pacific Surfliner Route share of ADA Phase III project approval and allocation (\$5,340,000) for all three corridors	6/2/98	*MFP-98-18	2/17/99	✓
	<b>SAN DIEGO Station Improvements</b> # Preliminary review of design for ADA compliant station improvements	San Diego	ITIP-SHA	1998-99	\$ 25,054	*G-98-08 1998 STIP Represents a portion of Pacific Surfliner Route share of ADA Phase III project approval and allocation (\$5,340,000) for all three corridors	6/2/98	*MFP-98-18	2/17/99	✓

SAN DIEGO Station Improvements continued on next page



## Los Angeles-San Diego

***Ticket Vending Machines continued on next page***

# **INTERCITY RAIL CAPITAL PROGRAM**

## **Section A2: Pacific Surfliner Route - South**

Los Angeles-San Diego

ID No.	Project Summary	County	Funding Source	Funding Year	Amount	Project Approval		Project Allocation		Project Complete
						CTC Res. No.	Date	CTC Res. No.	Date	
R6845B	Ticket Vending Machines	Multiple	ITIP-SHA	1999-00	\$ 1,175,000	•SA-98S-40 1998 STIP Augmentation Resolution approved \$2,350,000; \$1,175,000 represents half of this funding for Ticket Vending Machines that will sell both Amtrak and Metrolink tickets at Amtrak and Metrolink stations, the balance of \$1,175,000 will be for ticket Vending Machines on the Pacific Surfliner North Route	7/14/99	• MFP-01-04	8/22/01	
	Ticket Vending Machines	Multiple	SCRRRA	1999-00	\$ 368,000	•SCRRRA Represents half of \$736,000 project funding for selected Amtrak stations on the Pacific Surfliner Route and for selected Metrolink stations				
	Ticket Vending Machines# Install joint usage ticket vending machines at selected Amtrak stations on the Pacific Surfliner Route-South and selected Metrolink system stations Δ - Design system, develop software and install central processing unit for joint use ticket vending machines # Smart Card Reader Pilot/technical support/oversight	Multiple	CMAQ	2000-01	\$ 4,250,000	Represents approximately half of \$8,500,000 project funding for selected Amtrak stations on the Pacific Surfliner Route and for selected Metrolink stations				
	Computer for Minor Capital Projects Upgrade computer to manage and monitor all minor capital projects	Los Angeles	MCIP-PTA	2000-01	\$ 1,333					
	Orange County Station Signage Install changeable message signs	Orange	Local	2001-02	\$286,525					
	Multiple Station Projects				\$ 8,082,332					
	<b>TOTAL ALL STATION PROJECTS</b>			<b>TOTAL ALL PROJECTS</b>	<b>\$129,951,077</b>					

• - Indicates this funding source was split into two or more projects  
Section A2

# INTERCITY RAIL CAPITAL PROGRAM

## Section A2: Pacific Surfliner Route - South

Los Angeles-San Diego

ID No.	Project Summary	County	Funding Source	Funding Year	Amount	Project Approval		Project Allocation		Project Complete
						Res. No.	Date	Res. No.	Date	
TRACK AND SIGNAL PROJECTS										
9026	Los Angeles Union Station Fifth Lead Track#	Los Angeles	TCRF	2001-02	\$ 264,000	•TA-02-02	2/28/02	TFFP-02-02	2/28/02	
	Los Angeles Union Station Fifth Lead Track#	Los Angeles	TCRF	2001-02	\$ 125,000	•TA-02-02	2/28/02	TCPD-TA-02-02	7/31/02	
	Los Angeles Union Station Fifth Lead Track Construct fifth lead track into station # Preliminary engineering and environmental work	Los Angeles	TCRF SB 1662 (9/26/2000) (Ch. 656) -Project 35.3	2001-02	\$ 4,675,000	•TA-02-02 Portion of \$100,000,000 TCRF Project 35; balance for Los Angeles County Track Improvements (\$66,936,000) and for Los Angeles Union Run Through Tracks (\$28,000,000)	2/28/02	-Caltrans		
TOTAL ALL PROJECTS					\$ 5,064,000	MT-89-10	3/23/89	MT-90-9	12/14/89	✓
9026	Los Angeles Union Station and Track Improvements	Los Angeles	TCI-TP&D	1989-90	\$ 200,000	•PA-92-07 5/7/92	5/7/92	•BFP-91-22 Resolution allocated \$42,600,000; balance for Mission Plant Trackwork (\$4,432,000), Los Angeles Consolidated Signal System (\$6,412,000), Mission Tower-Dayton Tower Track & Signal Imps. (\$5,126,000), Los Angeles-Fullerton Track Improvements (\$2,660,000) and Metrolink commuter rail service (\$11,857,000)	8/10/92	✓
	Los Angeles Union Station and Track Improvements	Los Angeles	LACTC	1989-90	\$ 200,000					
	Los Angeles Union Station and Track Improvements	Los Angeles	Bond 116	1992-93	\$ 12,113,000					
TOTAL ALL PROJECTS					\$ 7,129,000	•PA-92-07	5/7/92	•BFP-92-04 Resolution allocated \$25,400,000; balance for Mission Plant Trackwork (\$5,408,000), Los Angeles Consolidated Signal System (\$3,229,000), Los Angeles-Fullerton Track Improvements (\$5,101,000) and Metrolink commuter rail service (\$4,533,000)		
R896RB	Los Angeles Union Station and Track Improvements	Los Angeles	Bond 116	1992-93	\$ 7,129,000	•TA-01-06 3/28/01	3/28/01	TCPD-01-06 - Caltrans Portion of \$100,000,000 TCRF Project 35; balance for Los Angeles County Track Improvements (\$66,936,000) and for Los Angeles Union Station Fifth Lead Track (\$5,064,000)	7/17/01	
	Los Angeles Union Station Run Through Tracks #	Los Angeles	PTA	2000-01	\$ 65,000					
	Los Angeles Union Station Run Through Tracks Prepare environmental documentation and design for run-through tracks at Los Angeles Union Station # Begin preliminary engineering and environmental work	Los Angeles	TCRF SB 1662 (9/26/2000) (Ch. 656) -Project 35.1	2000-01	\$ 28,000,000					
TOTAL ALL PROJECTS					\$ 28,065,000					
Los Angeles Union Station Run Through Tracks										

• - Indicates this funding source was split into two or more projects  
Section A2

## Section A2: Pacific Surfliner Route - South

## Section A2: Pacific Surfliner Route - South

*Los Angeles Consolidated Signal System continued on next page*

# INTERCITY RAIL CAPITAL PROGRAM

## Section A2: Pacific Surfliner Route - South

Los Angeles-San Diego

ID No.	Project Summary	County	Funding Source	Funding Year	Amount	Project Approval		Project Allocation		Project Complete
						CTC Res. No.	CTC Date	CTC Res. No.	CTC Date	
9043	Los Angeles Consolidated Signal System	Los Angeles	Bond 116	1993-94	\$ 1,400,000	•PA-92-07	5/7/92	•BFP-94-42	11/30/94	✓
	Construct consolidated signal system, including signal work to remote control Mission Tower from the central control facility	Los Angeles						Resolution allocated \$7,000,000; balance for Los Angeles-Fullerton Track Improvements (\$5,600,000)		
	Mission Tower-Redondo Junction Industry Track	Los Angeles	Amtrak	1995-96	\$ 800,000	Amtrak 96-210	1995	Amtrak 96-210	1996	✓
9043	Mission Tower-Redondo Junction Industry Track	Los Angeles	SHA	1995-96	\$ 3,216,000	•35A Allocation	2/22/95	•MFP-95-44	3/27/96	✓
	Realign track and install CWR and concrete ties on West Bank between Mission Tower and Redondo Junction, including upgrading of the Industry Track	Los Angeles						Resolutions approved and allocated \$7,752,000; balance (\$4,536,000) for River Corridor Track and Signal Imps - North of LA		
	River Corridor Track and Signal Imps - South of LA	Los Angeles	MCIP:TP&D	1994-95	\$ 80,000	Caltrans	8/25/95	Caltrans	8/25/95	✓
9066A	Redondo Jet-Alameda Corridor Flyover	Los Angeles	POLB	1989-90	\$ 593,064	POLB	5/9/90	POLB	5/9/90	✓
	Study operational and construction cost estimates for the higher speed grade separation	Los Angeles						(See Item Below)		
	Redondo Jet-Alameda Corridor Flyover	Los Angeles	POLA	1989-90	\$ 417,895	POLA	5/1/90	POLA	5/1/90	✓
9066B	Redondo Jet-Alameda Corridor Flyover	Los Angeles	USDOC	1992-93	\$ 392,447	USDOC	5/21/93	USDOC	5/21/93	✓
		Los Angeles						Portion of \$2 million grant for Alameda Corridor project		
	Redondo Jet-Alameda Corridor Flyover	Los Angeles	LACMTA	1993-94	\$ 2,543,800	LACMTA	1/5/94	LACMTA	1/5/94	✓
9066B	Redondo Jet-Alameda Corridor Flyover	Los Angeles	IRR-SHA	1996-97	\$ 1,700,000	G-96-10	5/1/96	MFP-96-07	7/11/96	✓
		Los Angeles				1996 STIP				
	Redondo Jet-Alameda Corridor Flyover	Los Angeles	IRR-SHA	1996-97	\$ 960,000	G-96-10	5/1/96	MFP-96-23	12/12/96	✓
9066	Redondo Jet-Alameda Corridor Flyover	Los Angeles	RSTP	1996-97	\$ 5,105,000	FHWA	2/10/97	FHWA	2/10/97	✓
		Los Angeles				1996 STIP		MFP-97-49	2/17/98	✓
	Redondo Jet-Alameda Corridor Flyover	Los Angeles	TEA-21	1997-98	\$ 731,500	TEA-21	4/1/98	FHWA	9/16/99	✓
9066	Redondo Jet-Alameda Corridor Flyover	Los Angeles	OCHA	1996-97	\$ 45,864,799			Portion of a \$400 million loan from USDOT approved in FY 1997-98		✓
		Los Angeles								
	Redondo Jet-Alameda Corridor Flyover	Los Angeles	TEA-21	1998-99	\$ 997,500	TEA-21	4/1/98	FHWA	9/16/99	✓
9066	Redondo Jet-Alameda Corridor Flyover	Los Angeles	LACMTA	1998-99	\$ 3,044,000	LACMTA	9/1/98	LACMTA	9/1/98	✓
		Los Angeles						Portion of \$7 million grant for Alameda Corridor project		
	Redondo Jet-Alameda Corridor Flyover	Los Angeles	RSTP	1998-99	\$ 18,081,000	FHWA	1/15/99	FHWA	1/15/99	✓
9066	Redondo Jet-Alameda Corridor Flyover	Los Angeles	ACTA	1998-99	\$ 6,666,894			Portion of \$1.160 billion bond sales completed on 2/9/1999		✓
		Los Angeles								
	Redondo Jet-Alameda Corridor Flyover	Los Angeles	RSTP	1999-00	\$ 17,700,000			Part of funds programmed for North End Alameda Corridor Improvements. Approval and allocation to Redondo Junction are pending	5/1/90	✓
Redondo Jet-Alameda Corridor Flyover continued on next page										

• - Indicates this funding source was split into two or more projects  
Section A2

# INTERCITY RAIL CAPITAL PROGRAM

## Section A2: Pacific Surfliner Route - South Los Angeles-San Diego

INTERCITY RAIL CAPITAL PROGRAM										
Section A2: Pacific Surfliner Route - South										
Los Angeles-San Diego										
ID No.	Project Summary	County	Funding Source	Funding Year	Amount	Project Approval		Project Allocation		Project Complete
						Res. No.	Date	Res. No.	Date	
	Redondo Jct.-Alameda Corridor Flyover	Los Angeles	TEA-21 Δ	1999-00	\$ 1,197,000	TEA-21	4/1/98	FHWA	3/7/00	✓
	Redondo Jct.-Alameda Corridor Flyover	Los Angeles	TEA-21 Δ	2000-01	\$ 1,197,000	TEA-21	4/1/98			✓
	Redondo Jct.-Alameda Corridor Flyover	Los Angeles	TEA-21 Δ	2001-02	\$ 1,263,500	TEA-21	4/1/98			✓
	Redondo Jct.-Alameda Corridor Flyover	Los Angeles	TEA-21 Δ	2002-03	\$ 1,263,500	TEA-21	4/1/98			✓
	A - PL 105-178; Section 1602, No. 410 (\$6,650,000 total)									
	Construct passenger rail flyover to grade separate passenger services from Alameda									
	Corridor freight rail line, including engineering, environmental documentation, right-of-way									
	acquisition and utility relocation									
86151A	Redondo Jct.-Alameda Corridor Flyover	Los Angeles	TOTAL ALL PROJECTS	1996-97	\$ 114,138,899					
	Commerce Track Improvements	Los Angeles	TCL-PTA	1996-97	\$ 1,034,000	G-96-10	5/7/96	MFP-98-31	6/8/99	✓
						Resolutions approved and allocated \$1,834,000; balance (\$800,000) for Metrolink Station Platform				
	Commerce Track Improvements	Los Angeles	Amtrak	1998-99	\$ 1,834,000	Amtrak		Amtrak		✓
	Prepare preliminary engineering, environmental documentation, and construct additional track to facilitate passenger and freight train movements in area of Metrolink station									
	Commerce Track Improvements	Los Angeles	TOTAL ALL PROJECTS		\$ 2,868,000					
	Los Angeles County Grade Crossing Improvements	Los Angeles	TP&D-PVEA	1988-89	\$ 600,000	1988 Budget Act	7/8/89	MT-89-28	4/20/89	✓
		Los Angeles	LACTC	1988-89	\$ 600,000	Item No. 2660-301-046				✓
904	Los Angeles County Grade Crossing Improvements	Multiple	TOTAL ALL PROJECTS		\$ 1,200,000					
	Los Angeles-Fullerton Track Improvements	Multiple	TCL-PVEA	1989-90	\$ 213,000	MT-89-10	3/23/89	MT-90-3	8/24/89	✓
						Project approval of \$2,400,000 Includes item below				
901	Los Angeles-Fullerton Track Improvements	Multiple	TCL-TP&D	1989-90	\$ 2,187,000	MT-89-10	3/23/89	MT-90-8	10/19/89	✓
						Project approval of \$2,400,000 Includes item below				
	Los Angeles-Fullerton Track Improvements	Multiple	City #	1989-90	\$ 1,099,310					✓
			# - City of Fullerton							
	Los Angeles-Fullerton Track Improvements	Multiple	Bond 116	1991-92	\$ 2,660,000	PA-92-07	5/7/92	BFP-91-22	5/7/92	✓
						Resolution allocated \$42,600,000; balance for Mission Plant Trackwork (\$4,432,000). Los Angeles Consolidated Signal System (\$6,412,000). Mission Tower-Dayton Tower Track & Signal Imps (\$5,126,000). Los Angeles Union Station and Track Imps (\$12,113,000) and Metrolink commuter rail service (\$11,857,000)				
Los Angeles-Fullerton Track Improvements continued on next page										

• - Indicates this funding source was split into two or more projects  
Section A2

# **INTERCITY RAIL CAPITAL PROGRAM**

## **Section A2: Pacific Surfliner Route - South** Los Angeles-San Diego

INTERCITY RAIL CAPITAL PROGRAM										
Section A2: Pacific Surfliner Route - South										
Los Angeles-San Diego										
ID No.	Project Summary	County	Funding Source	Funding Year	Amount	Project Approval		Project Allocation		Project Complete
						Res. No.	Date	Res. No.	Date	
	Los Angeles-Fullerton Track Improvements	Multiple	Bond 116	1992-93	\$ 5,101,000	PA-92-07	5/7/92	BFP-92-04	8/10/92	✓
								Resolution allocated \$25,400,000; balance for Mission Plant Trackwork (\$5,408,000), Los Angeles Consolidated Signal System (\$3,229,000), Los Angeles Union Station and Track Imps (\$7,129,000), and Metrolink commuter rail service (\$4,533,000)		
	Los Angeles-Fullerton Track Improvements Δ	Multiple	TCLSHA	1992-93	\$ 1,120,000	MT-92-1	3/19/92	BFP-93-24	9/8/93	✓
	Los Angeles-Fullerton Track Improvements	Multiple	Bond 116	1993-94	\$ 5,600,000	PA-92-07	5/7/92	BFP-94-42	11/30/94	✓
								Resolution allocated \$7,000,000; balance for Los Angeles Union Station and Track Imps (\$1,400,000)		
	Los Angeles-Fullerton Track Improvements	Multiple	LACMTA	1993-94	\$ 688,000					✓
	Construct four crossovers between Los Angeles and Fullerton and third track at Fullerton									
	Δ - For third main track at Fullerton									
	Los Angeles-Fullerton Track Improvements	TOTAL ALL PROJECTS			\$ 18,668,310					
	Los Angeles-Fullerton Third Main Track	Los Angeles	TIP-SHA	2000-01	\$ 7,080,000	SA-985-40	7/14/99	MFP-00-08	9/28/00	
						1998 STIP Augmentation				
	Bandini to DT Junction-Third Main Track	Los Angeles	Amtrak	1999-00	\$ 3,000,000	Amtrak 00-246	9/23/99	Amtrak 00-246	9/23/99	
	Bandini to DT Junction-Third Main Track	Los Angeles	BNSF	1999-00	\$ 1,920,000	BNSF		BNSF		
	Bandini to DT Junction-Third Main Track	Los Angeles	TIP-SHA	2002-03	\$ 5,700,000	G-00-32	12/6/00			
	Construct three miles of third main track at Bandini In Commerce, Montebello and Pico Rivera					2000 STIP				
								Waiver 02-26 (6/13/02) extended allocation date to 6/30/03		
	Bandini to DT Junction-Third Main Track	TOTAL ALL PROJECTS			\$ 17,700,000	FRA	10/22/92	FRA	8/23/93	
	Santa Fe Springs Grade Crossing Improvements	Los Angeles	FRA	1992-93	\$ 115,999	HSR-X037 (051)				
	Install warning devices in medians of grade crossings at Rosecrans Ave. and Marquardt Ave.									
	Santa Fe Springs Grade Crossing Improvements	TOTAL ALL PROJECTS			\$ 115,999					
	DT Junction to La Mirada Third Track#	Los Angeles	TIP-SHA	2000-01	\$ 3,000,000	G-00-32	12/6/00	MFP-00-19	5/2/01	
						2000 STIP				
	DT Junction to La Mirada Triple Track	Los Angeles	TIP-SHA	2005-06	\$ 350,000	G02-04	4/4/02			
						2002 STIP				
	DT Junction to La Mirada Triple Track	Los Angeles	TIP-SHA	2006-07	\$ 4,650,000	G02-04	4/4/02			
	Construct Triple Track					2002 STIP				
	# Prepare environmental documentation and engineering for 5.6 miles of third main track	Los Angeles	TOTAL ALL PROJECTS		\$ 8,000,000					
	DT Junction to La Mirada Third Track	Los Angeles	TIP-SHA	2000-01	\$ 2,900,000	G-00-32	12/6/00	MFP-00-19	5/2/01	
						2000 STIP				
	La Mirada to Bosta Third Track	Los Angeles	TOTAL ALL PROJECTS		\$ 2,900,000					
	Prepare environmental documentation and engineering for 5.5 miles of third main track									
	La Mirada to Bosta Third Track	Multiple	Bond 108	1990-91	\$ 4,716,000	G-90-18	9/20/90	PRB-91-2	11/6/90	✓
	Data Radio/Electronic Coded Track Circuits					1990 STIP				
	Data Radio/Electronic Coded Track Circuits	San Diego	Transnet	1993-94	\$ 2,507,624					✓
	Install data-radio between Fullerton and Old Town (San Diego); install electronic coded track circuits between Irvine and Old Town; remove utility poles									
	Data Radio/Electronic Coded Track Circuits	TOTAL ALL PROJECTS			\$ 7,223,624					

• - Indicates this funding source was split into two or more projects  
Section A2

## Section A2: Pacific Surfliner Route - South

Los Angeles-San Diego

ID No.	Project Summary	County	Funding Source	Funding Year	Amount	Project Approval		Project Allocation		Project Complete
						CTC Res. No.	Date	CTC Res. No.	Date	
	Orange County Signal Improvements	Orange	OCTA	1997-98	\$ 50,000					
	Install grade crossing monitor/analyzer network									
	Orange County Signal Improvements	Orange	OCTA	1997-98	\$ 49,200					
	Orange County Signal Improvements	Orange	OCTA	1998-99	\$ 85,000					
	Replace signal control house batteries and chargers									
	Orange County Signal Improvements	Orange	OCTA	2000-01	\$ 27,645					
	Install monitoring systems on certain grade crossing controls									
	Orange County Signal Improvements	Orange	OCTA	2000-01	\$ 45,845					
	Replace gate crossing mechanisms									
	Orange County Signal Improvements	Orange	TOTAL ALL PROJECTS		\$ 257,690					
	Orange County Track Improvements	Orange	OCTA	2001-02	\$ 484,825					
	Install catch basins, short sections of storm drain, and embankment retaining wall									
	Orange County Track Improvements	Orange	OCTA	1998-99	\$ 444,000					
	Clean ballast									
	Orange County Track Improvements	Orange	OCTA	2000-01	\$ 229,470					
	Orange County Track Improvements	Orange	OCTA	2001-02	\$ 20,000					
	Upgrade rail turnouts									
	Orange County Track Improvements	Orange	TOTAL ALL PROJECTS		\$ 1,170,295					
	Orange County Track and Signal - Improvements	Orange	OCTA	1997-98	\$ 150,000					
	Renovate signals, embankments, and ballast									
	Orange County Track and Signal - Improvements	Orange	TOTAL ALL PROJECTS		\$ 150,000					
	Orange County Double and Triple Track	Orange	PYA	2001-02	\$ 29,500,000					
	Construct additional double and triple track segments									
	Orange County Double and Triple Track	Orange	TOTAL ALL PROJECTS		\$ 29,500,000					
	Anaheim Road Crossings - La Palma and State College	Orange	OCTA	2000-01	\$ 486,059					
	Reconstruct crossings									
	Anaheim Road Crossings - La Palma and State College	Orange	TOTAL ALL PROJECTS		\$ 486,059					
	Fullerton-Orange Track and Signal Imps - Area A	Orange	Bond 108	1992-93	\$ 3,044,000					
							G-92-04 1992 STIP	3/20/92	-MBFP-92-01 Resolution allocated \$15,299,000; balance for Santa Ana-Gallivan Track and Signal Imps - Area D (\$10,646,000), and Metrolink commuter rail service (\$1,609,000)	1/20/93
	Fullerton-Orange Track and Signal Imps - Area A	Orange	Bond 116	1992-93	\$ 14,523,000					
							*PA-93-04	1/20/93	*MBFP-92-01 Resolution allocated \$51,418,000; balance for Santa Ana-Gallivan track and Signal Imps-Area D (\$19,660,000), Serra-San Onofre Track and Signal Imps-Area E (\$1,714,000) and Metrolink commuter rail service (\$15,521,000)	1/20/93

• - Indicates this funding source was split into two or more projects  
Section A2

Pacific Surfliner Route - South - Page 20

Division of Rail - 9/1/02



# **INTERCITY RAIL CAPITAL PROGRAM**

## **Section A2: Pacific Surfliner Route - South**

Los Angeles-San Diego

ID No.	Project Summary	County	Funding Source	Funding Year	Amount	Project Approval		Project Allocation		Project Complete
						CTC Res. No.	Date	CTC Res. No.	Date	
	Fullerton-Orange Track and Signal Imps - Area A	Orange	Bond 116	1992-93	\$ 13,302,000	•PA-93-04	1/20/93	•BFP-94-40	11/30/94	✓
								Resolution allocated for Orange-Santa Ana Track and Signal Imps - Area B (\$398,000) and Metrolink commuter rail service (\$1,999,994)		
	Fullerton-Orange Track and Signal Imps - Area A	Orange	SHA	1994-95	\$ 1,376,000	•95Allocat'n/In Pin	2/22/95	•MFP-95-48	5/1/96	✓
	Construct double track, CTC and 5 culvert bridges							Resolution allocated \$3,105,000; balance (\$1,729,000) for Orange-Santa Ana Track and Signal Imps (Area B)		
	Fullerton-Orange Track and Signal Imps - Area A	Orange	TOTAL ALL PROJECTS		\$ 32,245,000					
	Fullerton-Santa Ana Rail Replacement - Phase I	Orange	IP&D	1987-88	\$ 4,000,000	SA-87-7	11/19/87	MT-88-8	11/19/98	✓
							Added project to 1987 STIP			
							Reappropriated in 1987 Budget Act (Item 2660-492) from SB 620 (6/28/1979)			
							\$71(c)(2)(c)			
	Fullerton-Santa Ana Rail Replacement - Phase I	Orange	Los Angeles Co	1987-88	\$ 800,000					✓
	Fullerton-Santa Ana Rail Replacement - Phase I	Orange	Orange Co	1987-88	\$ 800,000					✓
	Fullerton-Santa Ana Rail Replacement - Phase I	Orange	San Diego Co	1987-88	\$ 800,000					✓
	Fullerton-Santa Ana Rail Replacement - Phase I	Orange	Amtrak	1987-88	\$ 800,000					✓
	Fullerton-Santa Ana Rail Replacement - Phase I	Orange	AT&SF	1987-88	\$ 800,000					✓
	Replace aging bolted rail with new CWR on 100 miles of single track and 7.5 miles of second main track; replace wooden grade crossing with rubber crossings; upgrade and lengthen signal circuits to provide adequate warning times									
	Fullerton-Santa Ana Rail Replacement - Phase I	Orange	TOTAL ALL PROJECTS		\$ 8,000,000					
	Orange-Santa Ana Track and Signal Imps - Area B	Orange	Bond 116	1993-94	\$ 398,000	•PA-93-04	1/20/93	•BFP-94-40	11/30/94	✓
								Resolution allocated \$15,699,994; balance for Fullerton-Orange Track and Signal Imps - Area A (\$13,302,000) and Metrolink commuter rail service (\$1,999,994)		
	Orange-Santa Ana Track and Signal Imps - Area B	Orange	TCI/SHA	1992-93	\$ 1,895,000	SA-94-52	6/7/95	MFP-94-50	6/7/95	✓
							Redirects funding from San Juan Creek Bridge			
	Orange-Santa Ana Track and Signal Imps - Area B	Orange	SHA	1993-94	\$ 1,729,000	•95Allocat'n/In Pin	2/22/95	•MFP-95-48	5/1/96	✓
	Construct double track and CTC (Orange to La Veta and Santa Ana to 17th Street), and bridge over Interstate 5							Resolution allocated \$3,105,000; balance (\$1,376,000) for Fullerton-Orange Track and Signal Imps (Area A)		
	Orange-Santa Ana Track and Signal Imps - Area B	Orange	TOTAL ALL PROJECTS		\$ 4,022,000					

• - Indicates this funding source was split into two or more projects

# **INTERCITY RAIL CAPITAL PROGRAM**

## **Section A2: Pacific Surfliner Route - South**

Los Angeles-San Diego

ID No.	Project Summary	County	Funding Source	Funding Year	Amount	Project Approval		Project Allocation		Project Complete
						CTC Res. No.	Date	CTC Res. No.	Date	
	<b>Orange - Santa Ana Track Improvements</b> Replace crossings with standard concrete panels between Collins Avenue in the City of Orange and 17th Street in Santa Ana	Orange	OCTA	1998-99	\$ 360,000					
	<b>Orange - Santa Ana Track Improvements</b> Lincoln Avenue Double Track Δ	Orange	TOTAL ALL PROJECTS IRR-SHA	1998-97	\$ 360,000 \$ 485,000	G-96-10 1996 STIP	5/7/96	MFP-98-03	8/19/98	
R499SA	Lincoln Avenue Double Track Δ	Orange	IRR-SHA	2000-01	\$ 535,000	G-96-10 1996 STIP	5/7/96	MFP-00-05	8/23/00	
R499SA	Lincoln Avenue Double Track Δ	Orange	IRR-SHA	2002-03	\$ 1,960,000	G-96-10 1996 STIP SA-985-115 (5/11/2000) extended programming period	5/7/96			
	Lincoln Avenue Double Track	Orange	PTA	2001-02	\$ 6,000,000	01 Budget Act Item 2660-301-0046(1)(a) Budget Act appropriated \$41,000,000, balance for Santa Ana Pedestrian Bridge (\$5,500,000), and Orange County Double and Triple Track project (\$29,500,000).	7/25/01			
R499SA	Lincoln Avenue Double Track Construct 1.8 miles of second main track between Almond Street (Orange) and 17th Street (Santa Ana) -- parallels Lincoln Avenue in Santa Ana; includes second bridge across Santiago Creek and modifications to local street network Δ - Prepare design engineering and environmental documentation	Orange	RTIP-SHA	2002-03	\$ 5,849,000	G-99-07 1998 STIP SA-985-115 (5/11/2000) extended programming period	3/29/98			
	Lincoln Avenue Double Track		TOTAL ALL PROJECTS		\$ 14,829,000					
9010	Santa Ana-Gallivan Track and Signal Imps - Area D	Orange	TCTP&D	1999-90	\$ 710,000	-MT-89-10 Resolution approved \$1,190,000; balance (\$480,000) for San Juan Capistrano-Sorrento Rail Replacement-Phase III (rail purchase)	3/23/89	MFP-90-08	12/19/89	✓
9508	Santa Ana-Gallivan Track and Signal Imps - Area D	Orange	TCTP&D	1990-91	\$ 3,430,000	MT-90-13	3/15/90	MBFP-92-01	1/20/93	✓
9510	Santa Ana-Gallivan Track and Signal Imps - Area D	Orange	TCTP&D	1991-92	\$ 118,000	MT-91-21	3/21/91	MBFP-92-01	1/20/93	✓
9502	Santa Ana-Gallivan Track and Signal Imps - Area D	Orange	Bond 108	1992-93	\$ 10,646,000	G-92-02 1992 STIP	3/20/92	-MBFP-92-01 Resolution allocated \$15,299,000; balance for Fullerton-Orange Track and Signal Imps (Area A) and Signal Imps (Area A) (\$3,044,000), and Metrolink commuter rail service (\$1,609,000)	1/20/93	✓
Santa Ana - Gallivan Track and Signal Imps - Area D continued on next page										

# INTERCITY RAIL CAPITAL PROGRAM

## Section A2: Pacific Surfliner Route - South

Los Angeles-San Diego

ID No.	Project Summary	County	Funding Source	Funding Year	Amount	Project Approval		Project Allocation		Project Complete
						CTC Res. No.	Date	CTC Res. No.	Date	
	Santa Ana-Gallivan Track and Signal Imps - Area D	Orange	Local	1992-93	\$ 5,589,000	PA-93-04	1/20/93	MBFP-92-01	1/20/93	✓
	Santa Ana-Gallivan Track and Signal Imps - Area D	Orange	Bond 116	1992-93	\$ 19,660,000					Resolution allocated \$51,418,000; balance for Fullerton-Orange Track Signal Imps - Area A (\$14,523,000), Serra-San Onofre Track and Signal Imps- Area E (\$1,714,000) and Metrolink commuter rail service (\$15,521,000)
		Orange	TOTAL ALL PROJECTS		\$ 40,153,000					✓
		Orange	TP&D-PVEA	1988-89	\$ 4,400,000	1988 Budget Act Item No. 2660-301-046	7/8/89	MT-89-26	11/18/88	
		Orange	LACTC	1988-89	\$ 1,100,000					✓
		Orange	SANDAG	1988-89	\$ 1,100,000					✓
		Orange	Amtrak	1988-89	\$ 1,100,000					✓
		Orange	AT&SF	1988-89	\$ 1,100,000					✓
		Orange	TCLSHA	1988-89	\$ 1,760,000					✓
		Orange	OCTC	1988-89	\$ 440,000					✓
	Same project description as Phase I above									
	A - Purchase rail for use in Phase II									
9539	Orange County Track Improvements	Orange	TOTAL ALL PROJECTS		\$ 11,000,000					✓
	Replace 2.6 miles of tip-rip for wave protection; install three hot box detectors, and upgrade two timber bridges to concrete and steel		TCLSHA	1995-96	\$ 600,000	G-97-03	4/2/97	MFP-97-40	10/30/97	
9537	Orange County Track Improvements	Orange	TOTAL ALL PROJECTS		\$ 600,000					✓
	Santa Ana Block Signal		TCL-TP&D	1997-98	\$ 207,000	G-97-03	4/2/97	MFP-97-38	10/30/97	
	Install block signal east of Santa Ana station				\$ 207,000					
	Santa Ana Block Signal	Orange	TOTAL ALL PROJECTS		\$ 5,500,000	01 Budget Act Item 2660-301-0046(1)(a)	7/26/01			
	Santa Ana Pedestrian Bridge		PTA	2001-02	\$ 5,500,000	Budget Act appropriated \$41,000,000, balance for Lincoln Avenue Double Track (\$6,000,000), and Orange County Double and Triple Track project (\$29,500,000).				
	Construct a bridge over the double track and upgrade platform									
		Orange	TOTAL ALL PROJECTS		\$ 5,500,000					
			OCTA	2000-01	\$147,328					
	Santa Ana Pedestrian Bridge		TOTAL ALL PROJECTS		\$ 5,500,000					
	Justin Turnout (South of I-55) Rehabilitation	Orange			\$147,328					
	Upgrade rail from 115-lb. to 136-lb.									
	Justin Turnout (South of I-55) Rehabilitation		TOTAL ALL PROJECTS		\$147,328					

# INTERCITY RAIL CAPITAL PROGRAM

## Section A2: Pacific Surfliner Route - South

Los Angeles-San Diego

ID No.	Project Summary	County	Funding Source	Funding Year	Amount	Project Approval		Project Allocation		Project Complete
						CTC Res. No.	Date	CTC Res. No.	Date	
	Peter's Canyon Bridge (Tustin)	Orange	TP&D-PVEA	1988-89	\$ 325,000	1988 Budget Act	7/8/89	MT-89-28	4/20/89	✓
	Peter's Canyon Bridge (Tustin)	Orange	AT&SF	1988-89	\$ 325,000					✓
	Peter's Canyon Bridge (Tustin)	Orange	TOTAL ALL PROJECTS		\$ 650,000					
	Tustin Turnout Replacement	Orange	OCTA	2000-01	\$97,335					
	Replace #10 turnout at Redhill Avenue									
	Tustin Turnout Replacement	Orange	TOTAL ALL PROJECTS		\$97,335					
	Irvine Siding	Orange	ITIP-SHA	1998-99	\$ 3,540,000	G-98-03	6/2/98	MFP-98-03	8/19/98	✓
	Construct 7,000 foot siding.; design engineering, grading, turnouts, signal modernization and culvert extension					1998 STIP				
	Irvine Siding	Orange	TOTAL ALL PROJECTS		\$ 3,540,000					
	Irvine Crossover	Orange	FTA	1999-00	\$ 1,440,000					
	Install crossover south of Irvine siding									
	Irvine Crossover	Orange	OCTA	1999-00	\$ 360,000					
	Irvine Crossover	Orange	TOTAL ALL PROJECTS		\$ 1,800,000					
	Irvine (Borrego Canyon Wash) Bridge Replacement	Orange	OCTA	1998-99	\$300,000					
	Irvine (Borrego Canyon Wash) Bridge Replacement	Orange	OCTA	2000-01	\$460,000					
	Construct steel and concrete bridge									
	Irvine (Borrego Canyon Wash) Bridge Replacement	Orange	TOTAL ALL PROJECTS		\$760,000					
	Lake Forest (El Toro Road) Radio Upgrade	Orange	OCTA	1998-99	\$20,000					
	Upgrade radios									
	Lake Forest (El Toro Road) Radio Upgrade	Orange	TOTAL ALL PROJECTS		\$20,000					
	Mission Viejo (Oso Creek) Bridge Replacement	Orange	OCEMA	1997-98	\$610,000					
	Mission Viejo (Oso Creek) Bridge Replacement	Orange	OCEMA	1997-98	\$61,800					
	Install new steel and concrete bridge									
	Mission Viejo (Oso Creek) Bridge Replacement	Orange	TOTAL ALL PROJECTS		\$679,800					
	Replace wood ties between Avery Parkway in Mission Viejo and the Orange/San Diego County Line	Orange	OCTA	2000-01	\$ 1,537,387					
	Mission Viejo - Orange/San Diego County Line Track Imps	Orange	TOTAL ALL PROJECTS		\$ 1,537,387					
	San Juan Capistrano Turnout Replacement	Orange	OCTA	2000-01	\$132,135					
	Replace #14 turnout at CP Serra									
	San Juan Capistrano Turnout Replacement	Orange	TOTAL ALL PROJECTS		\$132,135					
	San Juan Capistrano (San Juan Creek) Bridge Lead Remediation	Orange	OCTA	2000-01	\$350,000					
	San Juan Capistrano (San Juan Creek) Bridge Lead Remediation	Orange	OCTA	2001-02	\$328,650					
	Mitigate the existence of lead in the existing paint and paint the Bridge									
	San Juan Capistrano (San Juan Creek) Bridge Lead Remediation	Orange	TOTAL ALL PROJECTS		\$678,650					

• - Indicates this funding source was split into two or more projects  
Section A2

# INTERCITY RAIL CAPITAL PROGRAM

## Section A2: Pacific Surfliner Route - South Los Angeles-San Diego

ID No.	Project Summary	County	Funding Source	Funding Year	Amount	Project Approval		Project Allocation		Project Complete
						CTC Res. No.	Date	CTC Res. No.	Date	
901	San Juan Capistrano-Sorrento Rail Repl. - Ph. III	Multiple ¶	TP&D	1989-90	\$ 7,500,000	1989 Budget Act Item No. 2860-302-046	7/7/89	MT-90-4	9/20/89	✓
	San Juan Capistrano-Sorrento Rail Repl. - Ph. III	Multiple ¶	SANDAG	1989-90	\$ 1,500,000					✓
	San Juan Capistrano-Sorrento Rail Repl. - Ph. III	Multiple ¶	Amtrak	1989-90	\$ 1,500,000					✓
	San Juan Capistrano-Sorrento Rail Repl. - Ph. III Δ	Multiple ¶	AT&SF	1989-90	\$ 1,500,000					✓
	San Juan Capistrano-Sorrento Rail Repl. - Ph. III Δ	Multiple ¶	TCI-TP&D	1989-90	\$ 2,400,000	•MT-89-10 Resolution approved \$1,920,000; balance (\$480,000) from Santa Ana-Gallivan Track and Signal Imps - Area D	3/23/89	MT-90-8	10/19/89	✓
9013	San Juan Capistrano-Sorrento Rail Repl. - Ph. III	Multiple ¶	OCTC	1989-90	\$ 600,000					✓
	Some project description as Phase I above									
	Δ - Purchase rail for use in Phase III									
	San Juan Capistrano-Sorrento Rail Replacement - Phase III	Orange	FRA	1988-99	\$ 30,000	FRA	7/23/99	FRA	9/10/99	✓
	Cassidy Brothers Crossing (Serra Siding)	Orange	§104(d)(2)			HSR-X059(031)				
	Upgrade private crossing with lights and gates	Multiple ¶	TCI-SHA	1990-91	\$ 800,000	MT-90-13 Resolution approved \$2,080,000; balance (\$1,200,000) for Sorrento-Old Town Rail Replacement Phase IV	3/15/90	MFP-92-26	5/5/93	✓
	Cassidy Brothers Crossing (Serra Siding)									
	Serra-San Onofre Track and Signal Imps - Area E									
	Serra-San Onofre Track and Signal Imps - Area E	Multiple ¶	Bond 116	1992-93	\$ 1,714,000	PA-93-04	1/20/93	MBFP-92-01 Resolution allocated \$51,418,000; balance for Fullerton-Orange Track and Signal Imps - Area A (\$14,523,000), Santa Ana-Gallivan Track and Signal Imps - Area D (\$19,660,000) and Metrolink commuter rail service (\$15,521,000)	1/20/93	✓
	Extend Serra Siding and power at both ends to tie into CTC; rehab San Onofre Siding and power both ends to tie into CTC									
¶ - Orange and San Diego Counties										
	Serra-San Onofre Track and Signal Imps - Area E	Orange	TOTAL ALL PROJECTS	2000-01	\$ 2,594,000					
	San Clemente Bridge Replacement	Orange	OCTA	2000-01	\$255,204					
	Replace the single-track ballast deck pile trestle bridge (0.4 miles south of Metrolink Station)									
	San Clemente Bridge Replacement	Orange	TOTAL ALL PROJECTS	1997-98	\$255,204					
	San Clemente Track Improvements	Orange	OCTA	1997-98	\$695,000					
	Install new steel piling and concrete deck bridges									
	San Clemente Track Improvements	Orange	OCTA	1997-98	\$220,000					
	San Clemente Track Improvements	Orange	OCTA	2000-01	\$120,000					
	Replacement of rock rip-rap to protect embankment from ocean waves at San Clemente									
	San Clemente Track Improvements	Orange	OCTA	2001-02	\$ 302,633					
	Construct concrete slab over the top of the current 8-ft. by 8-ft. bridge structure									
	San Clemente Track Improvements	Orange	TOTAL ALL PROJECTS		\$1,337,633					

# INTERCITY RAIL CAPITAL PROGRAM

## Section A2: Pacific Surfliner Route - South

Los Angeles-San Diego

INTERCITY RAIL CAPITAL PROGRAM										
Section A2: Pacific Surfliner Route - South										
Los Angeles-San Diego										
ID No.	Project Summary	County	Funding Source	Funding Year	Amount	Project Approval		Project Allocation		Project Complete
						CTC Res. No.	Date	CTC Res. No.	Date	
	Environmental Documentation for San Diego County Rail Upgrade Complete a Program Environmental Impact Report under CEQA and an Environmental Impact Statement under NEPA (PEIR/EIS) for rail upgrades in San Diego County	San Diego	TCRF	2001-02	\$ 2,498,000	TA-01-13	8/22/01	TCRP-01-13-74.2	8/29/01	
						Portion of \$47,000,000 TCRF Project 74; balance for Oceanside double Track (\$6,000,000), Fallbrook Siding Improvements (\$450,000), and San Diego County Track and Layover Facility Imps. (\$38,052,000)				
	Environmental Documentation for San Diego County Rail Upgrades	San Diego	TOTAL ALL PROJECTS	2001-02	\$ 2,498,000					
	San Diego County Double Track	San Diego	TCRF	2001-02	\$ 16,052,000					
	Construct double track in portions of San Diego County	San Diego	SB 1662 (9/26/2000) (Ch. 656)-Project 74							
R882SA	San Diego County Double Track	San Diego	TOTAL ALL PROJECTS	1999-00	\$ 16,052,000					
	San Onofre Siding Track Improvements	San Diego	ITIP-SHA	1999-00	\$ 5,600,000	G-98-03	6/27/98	MFP-99-17	7/19/00	
	Extend siding and upgrade related signals	San Diego				1998 STIP				
R830SA	San Onofre Siding Track Improvements	San Diego	TOTAL ALL PROJECTS	1999-00	\$ 5,600,000					
	Culvert Replacements	San Diego	RTIP-SHA	1999-00	\$ 588,000	SA-98S-103	3/30/00	MFP-99-32	6/15/00	✓
	Replace and rehabilitate culverts and drainage at MP 214.8 (Camp Pendleton), MP 251.5 (Sorrento Mesa) and MP 255.76 (University City [north of Elvira])	San Diego				Redirected from San Diego County's unprogrammed funds				
8029	Culvert Replacements	San Diego	TOTAL ALL PROJECTS		\$ 588,000					
	Las Pulgas Siding	San Diego	TCI-TP&D	1991-92	\$ 1,271,221	MT-91-21	3/27/91	MBFP-92-5	2/24/93	✓
	Las Pulgas Siding	San Diego	TCI-SHA	1991-92	\$ 678,779	MT-91-21	3/27/91	MBFP-92-5	2/24/93	✓
	Las Pulgas Siding	San Diego	Transnet	1991-92	\$ 78,957					✓
	Design and construct new siding, including electrictide system									
R719SA	Las Pulgas Siding	San Diego	TOTAL ALL PROJECTS		\$ 2,028,957					
	CP Flores-CP O'Neil (San Clemente) Double Track Δ	San Diego	ITIP-SHA	1999-00	\$ 280,000	SA-98S-40	7/14/99	MFP-99-34	6/15/00	
						1998 STIP Augmentation				
						STIP Amendment				
						approved \$3,750,000; balance (\$3,470,000) programmed for FY 2000-01 (see ITIP items below)				
R719SA	CP Flores-CP O'Neil (San Clemente) Double Track	San Diego	Amtrak	1999-00	\$ 1,250,000	Amtrak 00-246	9/23/99	Amtrak 00-246	9/23/99	
	CP Flores-CP O'Neil (San Clemente) Double Track #	San Diego	ITIP-SHA	2000-01	\$ 120,000	SA-98S-40	7/14/99	MFP-00-13	1/18/01	
		San Diego				1998 STIP Augmentation				
R719SA	CP Flores-CP O'Neil (San Clemente) Double Track	San Diego	ITIP-SHA	2000-01	\$ 3,350,000	SA-98S-40	7/14/99	MFP-00-22	6/6/01	
	Construct 1.8 mile second main line track including related CTC Work					1998 STIP Augmentation				
	Δ - Prepare environmental documentation and preliminary engineering					(See first ITIP item above)				
	# Prepare plans, specifications, engineering and acquire long lead-time construction material					(See first ITIP item above)				
CP Flores-CP O'Neil (San Clemente) Double Track			TOTAL ALL PROJECTS		\$ 5,000,000					

• - Indicates this funding source was split into two or more projects

Los Angeles-San Diego

**Oceanside Siding**

# **INTERCITY RAIL CAPITAL PROGRAM**

## **Section A2: Pacific Surfliner Route - South**

Los Angeles-San Diego

ID No.	Project Summary	County	Funding Source	Funding Year	Amount	Project Approval		Project Allocation		Project Complete
						CTC Res. No.	Date	CTC Res. No.	Date	
	Oceanside Double Track	San Diego	TCRF	2001-02	\$ 500,000	•TA-01-13	8/22/01	TCPO-01-13	8/29/01	
	Oceanside Double Track	San Diego	TCRF	2003-04	\$ 5,500,000	•TA-01-13	8/22/01	- Caltrans		
	Construct 1.2 miles of double track by extending existing Oceanside siding to the south	SD 1662 (9/26/2000) (Ch. 656)-Project 74.1								Portion of \$47,000,000 TCRP Project 74; balance for San Diego County Double Track (\$16,052,000), Fallbrook Siding Improvements (\$450,000), Environmental Documentation for San Diego County Rail Upgrades (\$2,498,000), and National City Maintenance Facility (\$22,000,000)
	Oceanside Double Track	San Diego	TOTAL ALL PROJECTS		\$ 6,000,000					
	San Diego County Signage	San Diego	FTA	1998-99	\$ 40,000					
	San Diego County Signage	San Diego	Transnet	1998-99	\$ 12,000					
	Install "No Trespassing" signs along tracks between Oceanside and San Diego									
	San Diego County Signage	San Diego	TOTAL ALL PROJECTS		\$ 60,000					
	San Diego County Grade Crossing Improvements	San Diego	FRA	1992-93	\$ 1,000,000	FRA	10/22/92	FRA	9/23/93	
	San Diego County Grade Crossing Improvements	San Diego	§104(d)(2)							
	San Diego County Grade Crossing Improvements	San Diego	Transnet	1992-93	\$ 13,367					
	Construct grade crossing improvements, including warning devices in median at Sixth St., Wisconsin Ave., Oceanside Blvd., Cassidy St., Grand Ave., Carlsbad Village Dr., Cannon Rd., Leucadia Blvd., D St., E St., and Chesterfield Dr.									
	San Diego County Grade Crossing Improvements	San Diego	TOTAL ALL PROJECTS		\$ 1,013,367					
	Carlsbad Village Station Signal Replacement	San Diego	Transnet	1997-98	\$ 50,880					
	Carlsbad Village Station Signal Replacement	San Diego	FTA	1997-98	\$ 192,000					
	Replace signal at north end of station									
	Carlsbad Village Station Signal Replacement	San Diego	TOTAL ALL PROJECTS		\$ 242,880					
	Tamarack Avenue Grade Crossing (near Carlsbad)	San Diego	FHWA §130	1997-98	\$ 85,831					
	Tamarack Avenue Grade Crossing (near Carlsbad)	San Diego	Transnet	1997-98	\$ 3,291					
	Improve grade crossing protection									
	Tamarack Avenue Grade Crossing (near Carlsbad)	San Diego	TOTAL ALL PROJECTS		\$ 69,122					
6041	Poinsettia Siding	San Diego	Bond 116	1992-93	\$ 3,633,000	PA-93-19	5/5/93	BFP-92-31	5/5/93	
	Poinsettia Siding	San Diego	Transnet	1992-93	\$ 133,219					
	Design and construct 3.2 mile siding									
	Poinsettia Siding	San Diego	TOTAL ALL PROJECTS		\$ 3,766,219	•PA-94-09	4/26/94	•BFP-96-02	7/11/96	
	Encinitas Siding	San Diego	Bond 116	1996-97	\$ 3,000,000	As amended by PA-96-20 (7/11/1996) expanding scope of work		Resolution allocated \$8,218,400; balance for Lomas Santa Fe Grade Separation (\$4,763,146) and CP Stuart-CP Mesa Second Main Track (\$455,253)		
	Encinitas Siding	San Diego	Transnet	1996-97	\$ 17,370	•PA-94-09	4/26/94	•BFP-96-02	7/11/96	
	Encinitas Double Track	San Diego	TOTAL ALL PROJECTS		\$ 3,017,370					

• - Indicates this funding source was split into two or more projects  
Section A2



## Los Angeles-San Diego

• - Indicates this funding source was spill into two or more projects

# **INTERCITY RAIL CAPITAL PROGRAM**

## **Section A2: Pacific Surfliner Route - South**

Los Angeles-San Diego

ID No.	Project Summary	County	Funding Source	Funding Year	Amount	Project Approval		Project Allocation		Project Complete
						Res. No.	Date	Res. No.	Date	
R550SB	Del Mar Bluffs Drainage	San Diego	ITIP-SHA	1998-99	\$ 300,000	•G-98-08 1998 STIP approved \$4,500,000; balance is Del Mar Bluffs Stabilization (\$530,000 - Design, and \$3,670,000 - Construction)	6/2/98	•MFP-98-03 Resolution allocated for Del Mar Bluffs Stabilization (\$530,000)	8/19/98	✓
R550SB	Del Mar Bluffs Drainage	San Diego	Transnet	1998-99	\$ 4,624	•G-98-08	6/2/99	•MFP-98-03	8/19/99	✓
R550SB	Del Mar Bluffs Drainage	San Diego	SLTPP	1998-99	\$ 685	•G-98-08	6/2/99	•MFP-98-03	8/19/99	✓
R550SB	Del Mar Bluffs Drainage	San Diego	Transnet	1999-00	\$ 1,182,309					✓
R550SB	Del Mar Bluffs Drainage	San Diego	City	1999-00	\$ 45,000					✓
R550SB	Del Mar Bluffs Drainage	San Diego	STA	1999-00	\$ 153,563					✓
R550SB	Del Mar Bluffs Drainage	San Diego	SLTPP	1999-00	\$ 101,075					✓
	Conduct initial drainage work preparatory to Bluffs stabilization									
	Del Mar Bluffs Drainage		TOTAL ALL PROJECTS		\$ 1,787,256					
8219	Del Mar Bluffs Stabilization	San Diego	TCL-SHA	1995-96	\$ 195,000	G-97-03	4/2/97	MFP-97-34	10/30/97	✓
8219	Del Mar Bluffs Stabilization	San Diego	TCL-TP&D	1997-98	\$ 5,000	G-97-03	4/2/97	MFP-97-34	10/30/97	✓
	Prepare preliminary engineering and design of walls to stabilize the Del Mar Bluffs and railroad tracks at Del Mar							As amended by technical changes approved 8/19/99		
R550SB	Del Mar Bluffs Stabilization	San Diego	ITIP-SHA	1998-99	\$ 530,000	•G-98-08 1998 STIP approved \$4,500,000; balance is item below (\$3,670,000 and Del Mar Bluffs Drainage (\$300,000))	6/2/98	•MFP-98-03 Resolution allocated for Del Mar Bluffs Drainage (\$300,000)	8/19/98	✓
R550SB	Del Mar Bluffs Stabilization	San Diego	ITIP-SHA	1999-00	\$ 3,670,000	•G-98-08 1998 STIP approved \$4,500,000; balance is item above (\$530,000) and Del Mar Bluffs Drainage (\$300,000)	6/2/98	MFP-01-08	12/12/01	
	Del Mar Bluffs Stabilization	San Diego	FTA-\$5309	1999-00	\$ 1,000,000	PL 106-69	10/9/99			
	Del Mar Bluffs Stabilization	San Diego	FTA-\$5309	2000-01	\$ 3,000,000	Pg. 1010 PL 106-346	10/23/00			
	Stabilize bluff area subject to erosion	San Diego	ITIP-SHA	2002-03	\$ 245,000	•G-02-04	4/4/02	MFP-02-03	7/18/02	
	Del Mar Bluffs Stabilization	San Diego	ITIP-SHA	2003-04	\$ 754,000	•G-02-04 2002 STIP	4/4/02			
	Replace track bed support that has eroded, protect the bluff face and reinforce the bluff toe									
	# Prepare environmental documentation and engineering									
	Del Mar Bluffs Stabilization	San Diego	TOTAL ALL PROJECTS		\$ 9,400,000					
	San Dieguito River Bridge Repairs	San Diego	FTA-\$5307	1998-99	\$ 305,907					✓
	San Dieguito River Bridge Repairs	San Diego	Transnet	1998-99	\$ 79,366					✓
	Repair bridge, including replacing some wooden pilings									
	San Dieguito River Bridge Repairs	San Diego	TOTAL ALL PROJECTS		\$ 385,273					
R760SA	San Dieguito River Bridge - Design and Engineering	San Diego	ITIP-SHA	2002-03	\$ 855,000	SA-985-40 1998 STIP Augmentation	7/14/99	Waiver 01-35 (6/7/2001) extended allocation date to 2/28/2003		
	Conduct preconstruction design engineering and environmental activities to replace worn single-track timber bridge over San Dieguito River with double track concrete bridge									
	San Dieguito River Bridge - Design and Engineering		TOTAL ALL PROJECTS		\$ 855,000					

• - Indicates this funding source was split into two or more projects  
Section A2

# INTERCITY RAIL CAPITAL PROGRAM

## Section A2: Pacific Surfliner Route - South

Los Angeles-San Diego

ID No.	Project Summary	County	Funding Source	Funding Year	Amount	Project Approval		Project Allocation		Project Complete
						CTC Res. No.	Date	CTC Res. No.	Date	
	Sorrento Siding Improvements	San Diego	TP&D-PUEA	1988-89	\$ 418,294	1988 Budget Act Item No. 2860-301-046	7/8/89	MT-85-27	11/18/88	✓
						Resolution allocated \$420,000 Budget Act approved and resolution allocated \$1,420,000, of which \$1,401,359 was spent; balance spent for Oceanside Station (\$350,000) and Oceanside Siding (\$633,065)				
	Sorrento Siding Improvements	San Diego	Transnet	1989-90	\$ 575,750					✓
	Design and construct upgraded siding									
	Sorrento-Miramar Double Track Δ	San Diego	TOTAL ALL PROJECTS		\$ 994,044					
8201E	Sorrento-Miramar Double Track Δ	San Diego	Bond 116	1996-97	\$ 486,100	PA-94-09	4/26/94	MBFP-96-03	1/29/97	
9069	Sorrento-Miramar Double Track Δ	San Diego	IRR-SHA	1996-97	\$ 1,010,000	G-96-10	5/1/96	MBFP-96-03	1/29/97	
						1996 STIP				
R6906B	Sorrento-Miramar Double Track \$	San Diego	Bond 116	1999-00	\$ 215,124	PA-94-09	4/26/94	BFP-99-12	3/30/00	
						PA-00-07, 3/30/2000, amended PA-94-09, and PA-96-20, 7/11/1996				
R5005B	Sorrento-Miramar Double Track Δ	San Diego	IRR-SHA	2000-01	\$ 1,300,000	G-96-10	5/1/96	MFP-00-22	6/6/01	
						1996 STIP SA-98S-31, 6/8/1999, extended programming period				
	Sorrento-Miramar Double Track	San Diego	Bond 116	2002-03	\$ 1,089,500	PA-94-09	4/26/94			
						From PUC Section 99029(a)				
	Sorrento-Miramar Double Track	San Diego	Bond 116	2002-03	\$ 250,000	PA-94-09	4/26/94			
						From PUC Section 99642				
	Sorrento-Miramar Double Track	San Diego	Bond 116	2002-03	\$ 654,876	PA-94-09	4/26/94			
						PA-00-07, 3/30/2000, amended PA-94-09, and PA-96-20, 7/11/1996				
R5005B	Sorrento-Miramar Double Track	San Diego	IRR-SHA	2003-04	\$ 21,390,000	G-96-10	5/1/96			
						1996 STIP SA-98S-31, 6/8/1999, extended programming period				
						SA-98S-5 (10/27/1998) added \$12,160,000 from deleted Elvirra/Hiar Double Track Project				
						Waiver 02-14 (5/9/02) extended allocation date to 11/30/03				
R6905A	Sorrento-Miramar Double Track	San Diego	ITIP-SHA	2003-04	\$ 5,300,000	G-99-03	6/2/98			
	Construct second main track between Sorrento (CP Pines) and Miramar (CP Cumbres) to reduce curvature of line to increase speeds, including new bi-directional powered crossover at CP Cumbres and new powered crossover at CP Pines					1998 STIP SA-98S-32, 7/15/1999, extended programming period				
	Δ - Perform preliminary engineering, environmental work and design, and construction and installation of signal equipment at Control Points Elijo and Valle									
	\$ - Perform environmental documentation									
	Sorrento-Miramar Double Track	San Diego	TOTAL ALL PROJECTS		\$ 31,717,600					

# INTERCITY RAIL CAPITAL PROGRAM

## Section A2: Pacific Surfliner Route - South

Los Angeles-San Diego

ID No.	Project Summary	County	Funding Source	Funding Year	Amount	Project Approval		Project Allocation		Project Complete
						CTC Res. No.	Date	CTC Res. No.	Date	
902	Sorrento-Old Town Rail Replacement - Phase IV	San Diego	TP&D	1989-90	\$ 1,500,000	1989 Budget Act Item No. 2600-302-046	7/7/89	MT-90-15	4/11/90	✓
9101	Sorrento-Old Town Rail Replacement - Phase IV	San Diego	TCL-TP&D	1990-91	\$ 7,500,000	MT-90-13	3/15/90	MT-91-2	7/11/90	✓
	Sorrento-Old Town Rail Replacement - Phase IV Δ	San Diego	TCL-SHA	1990-91	\$ 1,200,000	Resolution approved \$2,080,000; balance (\$880,000) for Serra-San Onofre Track and Signal Improvements-Area E	3/15/90	FMT-91-5	3/20/91	✓
	Sorrento-Old Town Rail Replacement - Phase IV Δ	San Diego	OCTC	1990-91	\$ 300,000					✓
	Sorrento-Old Town Rail Replacement - Phase IV Δ	San Diego	Transnet	1990-91	\$ 5,700,000					✓
	Δ - Purchase rail for use in Phase IV									
	Same project description as Phase I above									
	Sorrento-Old Town Rail Replacement - Phase IV	San Diego	TOTAL ALL PROJECTS		\$ 16,200,000					
	Miramar Hills Rerailing	San Diego	Transnet	1996-97	\$ 621,115					✓
	Miramar Hills Rerailing	San Diego	AT&SF	1996-97	\$ 1,373,000					✓
	Retail track									
	Miramar Hills Rerailing	San Diego	TOTAL ALL PROJECTS		\$ 1,994,115					✓
	False Bay Passing Track Δ	San Diego	Bond 116	1999-00	\$ 310,000	PA-94-09 As amended by PA-96-20 (7/11/1996) expanding scope of work; as further amended by PA-00-07 (3/30/2000)	4/26/94	BFA-99-05 Reduced from original allocation (\$4,900,000) in Resolution BFP-96-22 (1/29/1997)	3/30/00	✓
R6856B	False Bay Passing Track	San Diego	Bond 116	2000-01	\$ 3,710,000	PA-94-09 As amended by PA-96-20 (7/11/1996) expanding scope of work; as further amended by PA-00-07 (3/30/2000)	4/26/94	MBFP-00-01	1/18/01	
R6855A	False Bay Passing Track	San Diego	ITIP-SHA	2000-01	\$ 3,800,000	G-00-32 2000 STIP	12/6/00	MBFP-00-01	1/18/01	
	Construct 2.5 mile passing track with higher speed turnouts									
	Δ - Prepare environmental documentation									
	False Bay Passing Track	San Diego	TOTAL ALL PROJECTS		\$ 7,820,000					

## Section A2: Pacific Surfliner Route - South

**General Track and Signal Projects continued on next page**

# INTERCITY RAIL CAPITAL PROGRAM

## Section A2: Pacific Surfliner Route - South Los Angeles-San Diego

ID No.	Project Summary	County	Funding Source	Funding Year	Amount	Project Approval		Project Allocation		Project Complete
						CTC Res. No.	Date	CTC Res. No.	Date	
	Track, Signal and Infrastructure Upgrade	Multiple	RTIP-STP	2002-03	\$ 750,000	G-02-04 2002 STIP	4/4/02	MFP-02-07	7/18/02	
	Track, Signal and Infrastructure Upgrade	Multiple	RTIP-SHA	2004-05	\$ 12,938	Represents half of \$1,500,000 project funding advanced from 03/04 for the entire Metrolink served portion of the Pacific Surfliner Route				
	Track, Signal and Infrastructure Upgrade	Multiple	RTIP-STP	2004-05	\$ 99,563	G-02-04 2002 STIP	4/4/02			
	Track, Signal and Infrastructure Upgrade	Multiple	RSTP	2004-05	\$ 450,000	Represents half of the 75% (Intercity related funding) of a \$4,500,000 project for the entire Metrolink served portion of the Pacific Surfliner Route				
	Track, Signal and Infrastructure Upgrade	Multiple	RTIP-SHA	2005-06	\$ 64,688	G-02-04 2002 STIP	4/4/02	(See note above)		
	Track, Signal and Infrastructure Upgrade	Multiple	RTIP-STP	2005-06	\$ 497,813	G-02-04 2002 STIP	4/4/02			
	Track, Signal and Infrastructure Upgrade	Multiple	RTIP-SHA	2006-07	\$ 64,688	(See note above)				
	Track, Signal and Infrastructure Upgrade	Multiple	RTIP-STP	2006-07	\$ 497,813	G-02-04 2002 STIP	4/4/02			
	General Track and Signal Projects	TOTAL ALL PROJECTS				\$ 3,285,168	(See note above)			
	TOTAL ALL TRACK AND SIGNAL PROJECTS					\$664,015,875				

• - Indicates this funding source was split into two or more projects  
Section A2

Appendix F  
**Federal Transit Administration  
Transit Noise and Vibration  
Impact Assessment**

# **Transit Noise and Vibration Impact Assessment**

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**Final Report  
April 1995**

## **Prepared by**

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## **Prepared for**

Office of Planning  
Federal Transit Administration  
U.S. Department of Transportation  
Washington, D.C. 20590

## **Distributed in Cooperation with**

Technology Sharing Program  
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U.S. Department of Transportation  
Washington, D.C. 20590



## **ACKNOWLEDGEMENTS**

This guidance manual was developed by the firm, Harris Miller Miller & Hanson Inc. The principal author was Carl Hanson. Co-authors contributing substantially to the manual were Hugh Saurenman, David Towers, Grant Anderson, Yuki Kimura and William Robert. Direction from the Federal Transit Administration was provided by Abbe Marner.

A draft of this manual was provided to a group of specialists in the fields of acoustics and environmental planning and analysis for a peer review. Inclusion in the peer review panel does not imply that all members endorsed the procedures and methods set out in this manual. All of the comments from the peer review panel were carefully considered and adopted whenever possible. Input from the following peer review members is gratefully acknowledged: Robert Armstrong, FHWA; Peter Conlon, Association of American Railroads; Kenneth Feith and William McGovern, EPA; Myra Frank, Myra L. Frank & Associates; Barbara Ogilvie, Houston METRO; Michael Staiano, Staiano Engineering, Inc.; Eric Stusnick, Wyle Laboratories; and the following members of Wilson, Ihrig & Associates: Richard Carman, James Nelson, George Wilson and Steven Wolfe.

A final word of appreciation goes to the production staff of HMMH, whose substantial efforts made this manual as 'user-friendly' as possible.

## 7. BASIC GROUND-BORNE VIBRATION CONCEPTS

Ground-borne vibration can be a serious concern for nearby neighbors of a transit system route or maintenance facility, causing buildings to shake and rumbling sounds to be heard. In contrast to airborne noise, ground-borne vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of ground-borne vibration are trains, buses on rough roads, and construction activities such as blasting, pile driving and operating heavy earth-moving equipment.

The effects of ground-borne vibration include feelable movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In extreme cases, the vibration can cause damage to buildings. Building damage is not a factor for normal transportation projects with the occasional exception of blasting and pile driving during construction. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by 10 decibels or less. This is an order of magnitude below the damage threshold for normal buildings.

The basic concepts of ground-borne vibration are illustrated for a rail system in Figure 7-1. The train wheels rolling on the rails create vibration energy that is transmitted through the track support system into the transit structure. The amount of energy that is transmitted into the transit structure is strongly dependent on factors such as how smooth the wheels and rails are and the resonance frequencies of the vehicle suspension system and the track support system. These systems, like all mechanical systems, have resonances which result in increased vibration response at certain frequencies, called natural frequencies.

The vibration of the transit structure excites the adjacent ground creating vibration waves that propagate through the various soil and rock strata to the foundations of nearby buildings. The vibration propagates from the foundation throughout the remainder of the building structure. The maximum vibration amplitudes of the floors and walls of a building often will be at the resonance frequencies of various components of the building.

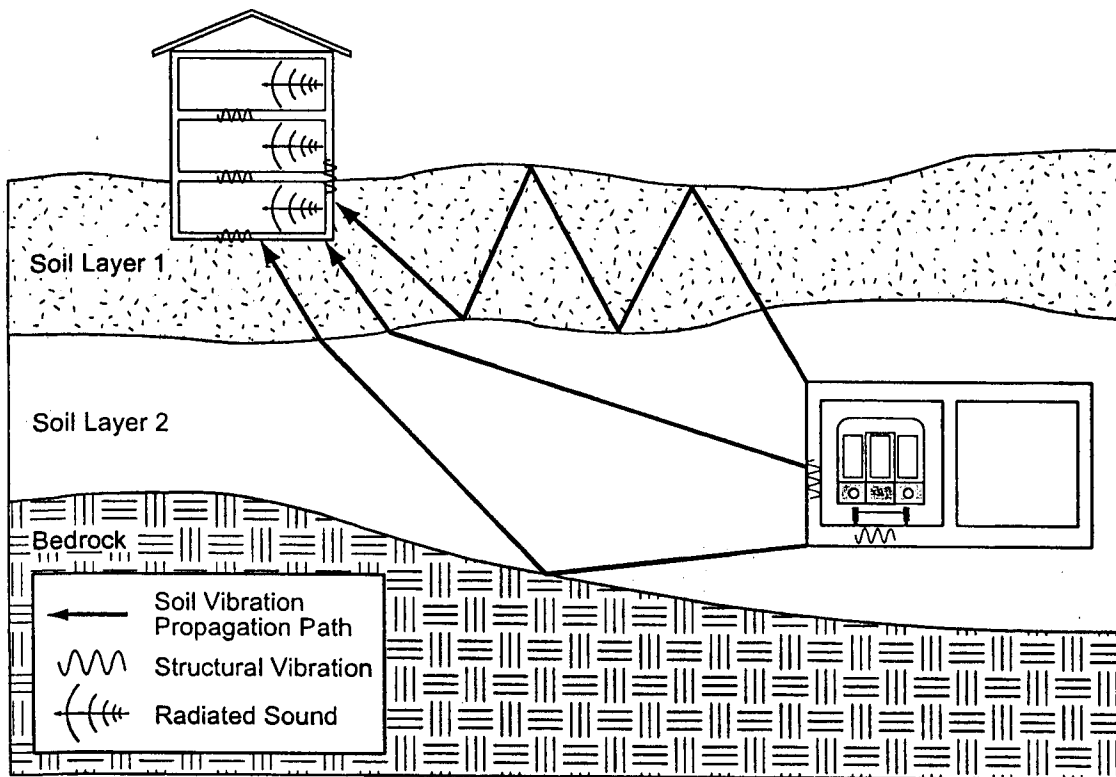


Figure 7-1 Propagation of Ground-Borne Vibration into Buildings

The vibration of floors and walls may cause perceptible vibration, rattling of items such as windows or dishes on shelves, or a rumble noise. The rumble is the noise radiated from the motion of the room surfaces. In essence, the room surfaces act like a giant loudspeaker. This is called ground-borne noise.

Ground-borne vibration is almost never annoying to people who are outdoors. Although the motion of the ground may be perceived, without the effects associated with the shaking of a building, the motion does not provoke the same adverse human reaction. In addition, the rumble noise that usually accompanies the building vibration can only occur inside buildings.

## 7.1 DESCRIPTORS OF GROUND-BORNE VIBRATION AND NOISE

### 7.1.1 Vibratory Motion

Vibration is an oscillatory motion which can be described in terms of the displacement, velocity, or acceleration. Because the motion is oscillatory, there is no net movement of the vibration element and the average of any of the motion descriptors is zero. Displacement is the easiest descriptor to understand. For a vibrating floor, the displacement is simply the distance that a point on the floor moves away from its static

position. The velocity represents the instantaneous speed of the floor movement and acceleration is the rate of change of the speed.

Although displacement is easier to understand than velocity or acceleration, it is rarely used for describing ground-borne vibration. This is because most transducers used for measuring ground-borne vibration use either velocity or acceleration, and, even more important, the response of humans, buildings, and equipment to vibration is more accurately described using velocity or acceleration.

### 7.1.2 Amplitude Descriptors

Vibration consists of rapidly fluctuating motions with an average motion of zero. There are several different methods that are used to quantify vibration amplitude. These are shown in Figure 7-2. The raw signal is the lighter weight curve in the top graph. This is the instantaneous vibration velocity which fluctuates positive and negative about the zero point. The peak particle velocity (PPV) is defined as the maximum instantaneous positive or negative peak of the vibration signal. PPV is often used in monitoring of blasting vibration since it is related to the stresses that are experienced by buildings.

Although peak particle velocity is appropriate for evaluating the potential of building damage, it is not suitable for evaluating human response. It takes some time for the human body to respond to vibration signals. In a sense, the human body responds to an average vibration amplitude. Because the net average of a vibration signal is zero, the root mean square (rms) amplitude is used to describe the "smoothed" vibration amplitude. The root mean square of a signal is the average of the squared amplitude of the signal. The average is typically calculated over a 1 second period. The rms amplitude is shown superimposed on the vibration signal in Figure 7-2. The rms amplitude is always less than the PPV\* and is always positive.

The PPV and rms velocity are normally described in inches per second in the USA and meters per second in the rest of the world. Although it is not universally accepted, decibel notation is in common use for vibration.

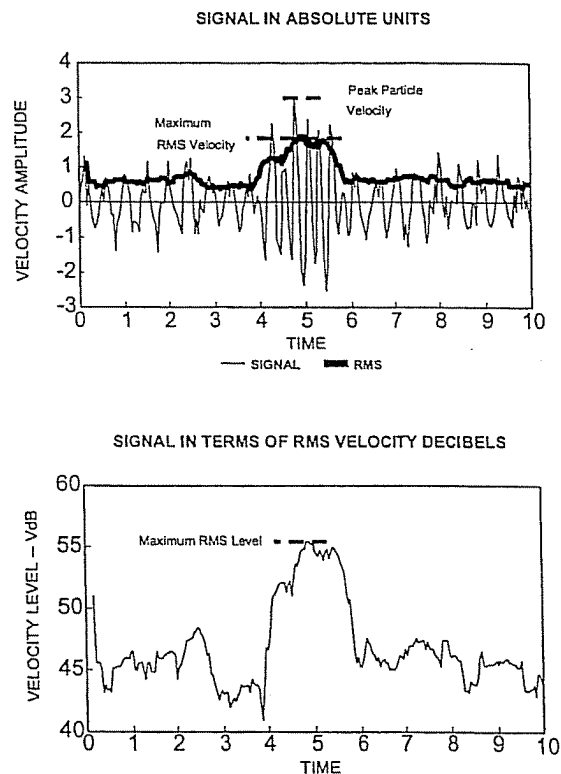


Figure 7-2 Different Methods of Describing a Vibration Signal

\*The ratio of PPV to maximum rms amplitude is defined as the **crest factor** for the signal. The crest factor is always greater than 1.71, although a crest factor of 8 or more is not unusual for impulsive signals. For ground-borne vibration from trains, the crest factor is usually 4 to 5.

Decibel notation acts to compress the range of numbers required to describe vibration. The bottom graph in Figure 7-2 shows the rms curve of the top graph expressed in decibels. Vibration velocity level in decibels is defined as:

$$L_v = 20 \times \log_{10} \left( \frac{v}{v_{ref}} \right)$$

where " $L_v$ " is the velocity level in decibels, " $v$ " is the rms velocity amplitude, and " $v_{ref}$ " is the reference velocity amplitude. A reference must always be specified whenever a quantity is expressed in terms of decibels. The accepted reference quantities for vibration velocity are  $1 \times 10^{-6}$  in./sec in the USA and either  $1 \times 10^{-8}$  m/sec or  $5 \times 10^{-8}$  m/sec in the rest of the world. Because of the variations in the reference quantities, it is important to be clear about what reference quantity is being used whenever velocity levels are specified. *All vibration levels in this manual are referenced to  $1 \times 10^{-6}$  in./sec.* Although not a universally accepted notation, the abbreviation "VdB" is used in this document for vibration decibels to reduce the potential for confusion with sound decibels.

There is some movement towards the use of a standardized weighted vibration level when evaluating human response to vibration. This vibration level, often abbreviated VL, is usually referred to as the *weighted acceleration level*. At frequencies greater than 8 Hz, which for all practical purposes is the frequency range of interest to ground-borne vibration:

$$VL \approx L_v - 21$$

where  $L_v$  is the vibration velocity level in decibels relative to 1 micro-inch per second ( $10^{-6}$  in./sec).

### 7.1.3 Ground-Borne Noise

As discussed above, the rumbling sound caused by the vibration of room surfaces is called ground-borne noise. The annoyance potential of ground-borne noise is usually characterized with the A-weighted sound level. Although the A-weighted level is almost the only metric used to characterize community noise, there are potential problems when characterizing low-frequency noise using A-weighting. This is because of the non-linearity of human hearing which causes sounds dominated by low-frequency components to seem louder than broadband sounds that have the same A-weighted level. The result is that ground-borne noise with a level of 40 dBA sounds louder than 40 dBA broadband noise. This is accounted for by setting the limits for ground-borne noise lower than would be the case for broadband noise.

## 7.2 HUMAN PERCEPTION OF GROUND-BORNE VIBRATION AND NOISE

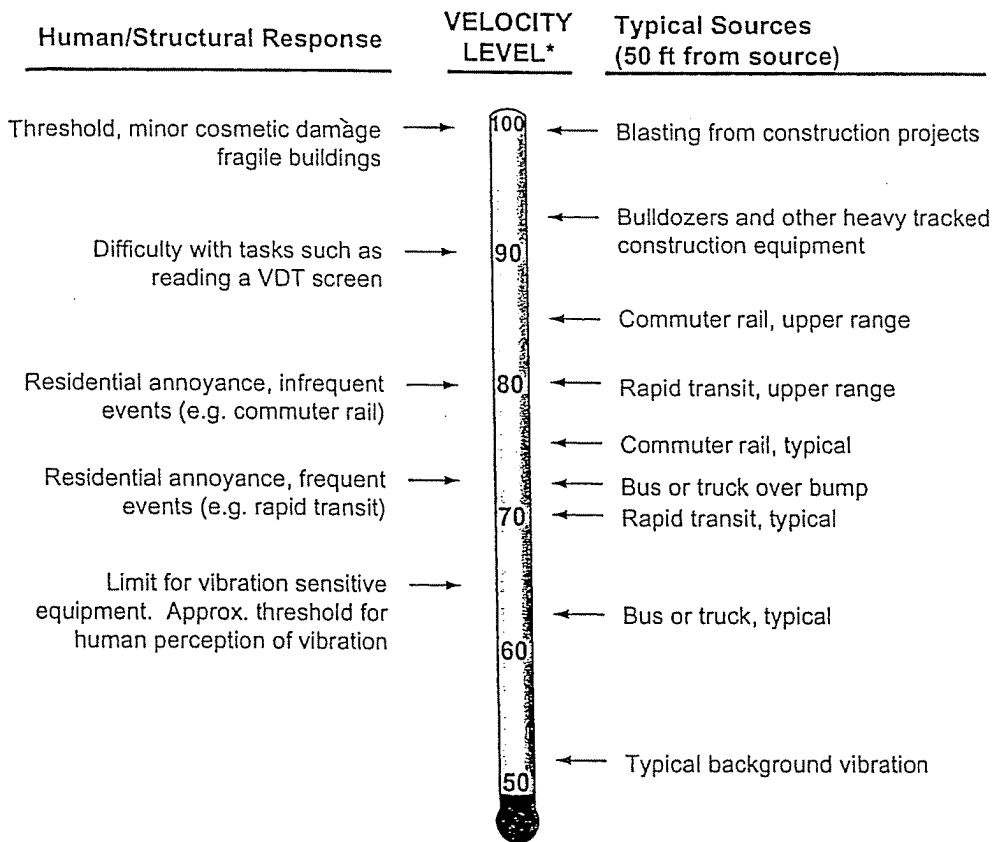
This section gives some general background on human response to different levels of building vibration laying the ground work for the criteria for ground-borne vibration and noise that are presented in Chapter 8.

### 7.2.1 Typical Levels of Ground-Borne Vibration and Noise

In contrast to airborne noise, ground-borne vibration is not a phenomenon that most people experience every day. The background vibration velocity level in residential areas is usually 50 VdB or lower, well below the

threshold of perception for humans which is around 65 VdB. Most perceptible indoor vibration is caused by sources within buildings such as operation of mechanical equipment, movement of people or slamming of doors. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If the roadway is smooth, the vibration from traffic is rarely perceptible.

Figure 7-3 illustrates common vibration sources and the human and structural response to ground-borne vibration. The range of interest is from approximately 50 VdB to 100 VdB. Background vibration is usually well below the threshold of human perception and is of concern only when the vibration affects very sensitive manufacturing or research equipment. Electron microscopes and high resolution lithography equipment are typical of equipment that is highly sensitive to vibration.



\* RMS Vibration Velocity Level in VdB relative to  $10^{-6}$  inches/second

Figure 7-3 Typical Levels of Ground-Borne Vibration

Although the perceptibility threshold is about 65 VdB, human response to vibration is not usually significant unless the vibration exceeds 70 VdB. This is a typical level 50 feet from a rapid transit or light rail system. Buses and trucks rarely create vibration that exceeds 70 VdB unless there are bumps in the road. Because of

the heavy locomotives on diesel commuter rail systems, the vibration levels average about 5 to 10 decibels higher than rail transit vehicles. If there is unusually rough road or track, wheel flats, geologic conditions that promote efficient propagation of vibration, or vehicles with very stiff suspension systems, the vibration levels from any source can be 10 decibels higher than typical. Hence, at 50 feet, the upper range for rapid transit vibration is around 80 VdB and the high range for commuter rail vibration is 85 VdB. If the vibration level in a residence reaches 85 VdB, most people will be strongly annoyed by the vibration.

The relationship between ground-borne vibration and ground-borne noise depends on the frequency content of the vibration and the acoustical absorption of the receiving room. The more acoustical absorption in the room, the lower the noise level will be. For a room with average acoustical absorption, the sound pressure level is approximately equal to the average vibration velocity level of the room surfaces.\* Hence, the A-weighted level of ground-borne noise can be estimated by applying A-weighting to the vibration velocity spectrum. Since the A-weighting at 31.5 Hz is -39.4 dB, if the vibration spectrum peaks at 30 Hz, the A-weighted sound level will be approximately 40 decibels lower than the velocity level. Correspondingly, if the vibration spectrum peaks at 60 Hz, the A-weighted sound level will be about 25 decibels lower than the velocity level.

### **7.2.2 Quantifying Human Response to Ground-Borne Vibration and Noise**

One of the major problems in developing suitable criteria for ground-borne vibration is that there has been relatively little research into human response to vibration, in particular, human annoyance with building vibration. However, experience with U.S. rapid transit projects over the past 20 years represents a good foundation for developing suitable limits for residential exposure to ground-borne vibration and noise from transit operations.

Figure 7-4 illustrates the relationship between the vibration velocity level measured in 22 homes and the general response of the occupants to the vibration. The data shown were assembled from measurements that had been performed for several transit systems. The subjective ratings are based on the opinion of the person that took the measurements and the response of the occupants. These data were previously published in the "State-of-the-Art Review of Ground-borne Noise and Vibration."<sup>(1)</sup> Both the occupants and the people who performed the measurements agreed that floor vibration in the "Distinctly Perceptible" category was unacceptable for a residence. The data in Figure 7-4 indicate that residential vibration that exceeds 75 VdB is unacceptable for a vibration source such as rapid transit trains that pass every 5 to 15 minutes. Also shown in Figure 7-4 is a curve showing the percent of people annoyed by vibration from high-speed trains in Japan.<sup>(2)</sup> The scale for the percent annoyed is on the right hand axis of the graph. The results of the Japanese study confirm the conclusion that at a vibration velocity level of 75 to 80 VdB, many people will find the vibration annoying.

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\*The sound level approximately equals the average vibration velocity level *only* when the velocity level is referenced to 1 micro inch/second. When velocity level is expressed using the international standard of  $1 \times 10^{-4}$  m/sec, the sound level is approximately 8 decibels lower than the average velocity level.

Table 7-1 describes the human response to different levels of ground-borne noise and vibration. The first column is the vibration velocity level, and the next two columns are for the corresponding noise level assuming that the vibration spectrum peaks at 30 Hz or 60 Hz. As discussed above, the A-weighted noise level will be approximately 40 dB less than the vibration velocity level if the spectrum peak is around 30 Hz, and 25 dB lower if the spectrum peak is around 60 Hz. Table 7-1 illustrates that achieving either the acceptable vibration or acceptable noise levels does not guarantee that the other will be acceptable. That is, the noise caused by vibrating structural components may be very annoying even though the vibration cannot be felt, or the other way around.

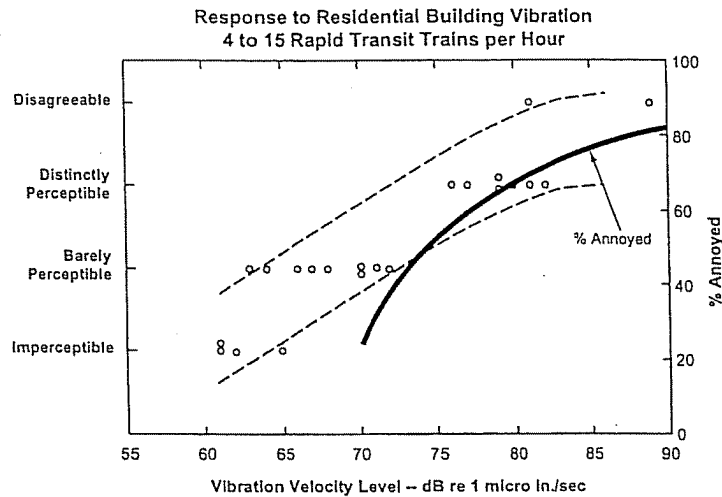


Figure 7-4 Occupant Response to Transit-Induced Residential Vibration

Table 7-1 Human Response to Different Levels of Ground-Borne Noise and Vibration			
Vib. Velocity Level	Noise Level		Human Response
	Low Freq <sup>1</sup>	Mid Freq <sup>2</sup>	
65 VdB	25 dBA	40 dBA	Approximate threshold of perception for many humans. Low-frequency sound usually inaudible, mid-frequency sound excessive for quiet sleeping areas.
75 VdB	35 dBA	50 dBA	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find transit vibration at this level unacceptable. Low-frequency noise acceptable for sleeping areas, mid-frequency noise annoying in most quiet occupied areas.
85 VdB	45 dBA	60 dBA	Vibration acceptable only if there are an infrequent number of events per day. Low-frequency noise unacceptable for sleeping areas, mid-frequency noise unacceptable even for infrequent events with institutional land uses such as schools and churches.
Notes:			
1. Approximate noise level when vibration spectrum peak is near 30 Hz.			
2. Approximate noise level when vibration spectrum peak is near 60 Hz.			



### 7.3 GROUND-BORNE VIBRATION FOR DIFFERENT TRANSIT MODES

This section provides a brief discussion of typical problems with ground-borne vibration and noise for different modes of transit.

**Steel Wheel Urban Rail Transit** – This category includes both heavy rail transit and light rail transit. Heavy rail is generally defined as electrified rapid transit trains with dedicated guideway, and light rail as electrified transit trains that do not require dedicated guideway. The ground-borne vibration characteristics of heavy and light rail vehicles are very similar since they have similar suspension systems and axle loads. Most of the studies of ground-borne vibration in this country have focused on urban rail transit. Problems with ground-borne vibration and noise are common when there is less than 50 feet between a subway structure and building foundations. Whether the problem will be perceptible vibration or audible noise is strongly dependent on local geology and the structural details of the building. Complaints about ground-borne vibration from surface track are more common than complaints about ground-borne noise. A significant percentage of complaints about both ground-borne vibration and noise can be attributed to the proximity of special trackwork, rough or corrugated track, or wheel flats.

**Commuter and Intercity Passenger Trains** – This category includes passenger trains powered by either diesel or electric locomotives. In terms of vibration effects at a single location, the major difference between commuter and intercity passenger trains is that the latter are on a less frequent schedule. Both often share track with freight trains, which have quite different vibration characteristics as discussed below. The locomotives usually create the highest vibration levels. There is the potential of vibration-related problems anytime that new commuter or intercity passenger service is introduced in an urban or suburban area.

**High Speed Passenger Trains** – High-speed passenger trains, such as the Japanese Shinkansen, the French TGV, the German ICE and the Swedish X2000, have the potential of creating high levels of ground-borne vibration. Ground-borne vibration should be anticipated as one of the major environmental impacts of any high speed train located in an urban or suburban area. The Amtrak trains on the Northeast Corridor between Boston and Washington, D.C., which attain moderate to high speeds in some sections with improved track, fit into this category.

**Freight Trains** – Local and long distance freight trains are similar in that they both are diesel-powered and have the same types of cars. They differ in their overall length, number and size of locomotives, and number of heavily loaded cars. Locomotives and rail cars with wheel flats are the sources of the highest vibration levels. Because locomotive suspensions are similar, the maximum vibration levels of local and long distance freights are similar. It is not uncommon for freight trains to be the source of intrusive ground-borne vibration; however, there are relatively few new freight lines in this country. Most railroad tracks used for freight lines were in existence for many years before the affected residential areas were developed. Vibration from freight trains can be a consideration for FTA- assisted projects when a new transit line will share an existing freight train corridor. Relocating the freight tracks to accommodate the transit system or shifting the freight traffic to other routes can lead to impact from ground-borne vibration, which must be considered an indirect or secondary impact of the transit system.

**Automated Guideway Transit Systems (AGT)** – This transit mode encompasses a wide range of transportation vehicles providing local circulation in downtown areas, airports and theme parks. In general, ground-borne vibration can be expected to be generated by steel-wheel/steel-rail systems even when limited in size. Because AGT systems normally operate at low speeds, have lightweight vehicles, and rarely operate in vibration sensitive areas, ground-borne vibration problems are very rare.

**Bus Projects** – Because the rubber tires and suspension systems of buses provide vibration isolation, it is unusual for buses to cause ground-borne noise or vibration problems. When buses cause effects such as rattling of windows, the source is almost always airborne noise. Most problems with bus-related vibration can be directly related to a pothole, bump, expansion joint, or other discontinuity in the road surface. Smoothing the bump or filling the pothole will usually solve the problem.

Problems are likely when buses will be operating inside buildings. Intrusive building vibration can be caused by sudden loading of a building slab by a heavy moving vehicle or by vehicles running over lane divider bumps. A bus transfer station with commercial office space in the same building may have annoying vibration within the office space caused by bus operations.

## 7.4 FACTORS THAT INFLUENCE GROUND-BORNE VIBRATION AND NOISE

One of the major problems with developing accurate estimates of ground-borne vibration is the large number of factors that can influence the levels at the receiver position. The purpose of this section is to give a general appreciation of which factors have significant effects on the levels of ground-borne vibration. Table 7-2 is a summary of some of the many factors that are known to have, or are suspected of having a significant influence on the levels of ground-borne vibration and noise. As indicated, the physical parameters of the transit facility, the geology, and the receiving building all influence the vibration levels. The important physical parameters can be divided into the following four categories:

**Operational and Vehicle Factors** – This category includes all of the parameters that relate to the vehicle and operation of the trains. Factors such as high speed, stiff primary suspensions on the vehicle, and flat or worn wheels will increase the possibility of problems from ground-borne vibration.

**Guideway** – The type and condition of the rails, the type of guideway, the rail support system, and the mass and stiffness of the guideway structure will all have an influence on the level of ground-borne vibration. Jointed rail, worn rail, and wheel impacts at special trackwork can all cause substantial increases in ground-borne vibration. A rail system guideway will be either subway, at-grade, or elevated. It is rare for ground-borne vibration to be a problem with elevated railways except when guideway supports are located within 50 ft of buildings; directly radiated noise is usually the dominant problem from at-grade guideway although vibration can be a problem; and ground-borne vibration is often one of the most important environmental problems for subways. For rubber-tired systems, the smoothness of the roadway/guideway is the critical factor; if the surface is smooth, vibration problems are unlikely.

**Geology** – Soil conditions are known to have a strong influence on the levels of ground-borne vibration. Among the most important factors are the stiffness and internal damping of the soil and the depth to

bedrock. Experience with ground-borne vibration is that vibration propagation is more efficient in stiff clay soils, and shallow rock seems to concentrate the vibration energy close to the surface and can result in ground-borne vibration problems at large distances from the track. Factors such as layering of the soil and depth to water table can have significant effects on the propagation of ground-borne vibration.

**Receiving Building** – The receiving building is a key component in the evaluation of ground-borne vibration since ground-borne vibration problems occur almost exclusively inside buildings. The train vibration may be perceptible to people who are outdoors, but it is very rare for outdoor vibration to cause complaints. The vibration levels inside a building are dependent on the vibration energy that reaches the building foundation, the coupling of the building foundation to the soil, and the propagation of the vibration through the building. The general guideline is that the heavier a building is, the lower the response will be to the incident vibration energy.

Table 7-2 Factors that Influence Levels of Ground-Borne Vibration and Noise

<i>Factors Related to Vibration Source</i>	
Factors	Influence
Vehicle Suspension	If the suspension is stiff in the vertical direction, the effective vibration forces will be higher. On transit cars, only the primary suspension affects the vibration levels, the secondary suspension that supports the car body has no apparent effect.
Wheel Type and Condition	Use of pneumatic tires is one of the best methods of controlling ground-borne vibration. Normal resilient wheels on rail transit systems are usually too stiff to provide significant vibration reduction. Wheel flats and general wheel roughness are the major cause of vibration from steel wheel/steel rail systems.
Track/Roadway Surface	Rough track or rough roads are often the cause of vibration problems. Maintaining a smooth surface will reduce vibration levels.
Track Support System	On rail systems, the track support system is one of the major components in determining the levels of ground-borne vibration. The highest vibration levels are created by track that is rigidly attached to a concrete trackbed (e.g. track on wood half ties embedded in the concrete). The vibration levels are much lower when special vibration control track systems such as resilient fasteners, ballast mats and floating slabs are used.
Speed	As intuitively expected, higher speeds result in higher vibration levels. Doubling speed usually results in vibration levels 4 to 6 decibels higher.
Transit Structure	The general rule-of-thumb is that the heavier the transit structure, the lower the vibration levels. The vibration levels from a lightweight bored tunnel will usually be higher than from a poured concrete box subway.
Depth of Vibration Source	There are significant differences in the vibration characteristics when the source is underground compared to at the ground surface.
<i>Factors Related to Vibration Path</i>	
Factor	Influence
Soil Type	It is generally expected that vibration levels will be higher in stiff clay type soils than in loose sandy soils.
Rock Layers	Vibration levels often seem to be high near at-grade track when the depth to bedrock is 30 ft or less. Subways founded in rock will result in lower vibration amplitudes close to the subway. Because of efficient propagation, the vibration level does not attenuate as rapidly in rock as it does in soil.
Soil Layering	Soil layering will have a substantial, but unpredictable, effect on the vibration levels since each stratum can have significantly different dynamic characteristics.
Depth to Water Table	The presence of the water table is often expected to have a significant effect on ground-borne vibration, but evidence to date cannot be expressed with a definite relationship.
Frost Depth	There is some indication that vibration propagation is more efficient when the ground is frozen.
<i>Factors Related to Vibration Receiver</i>	
Factor	Influence
Foundation Type	The general rule-of-thumb is that the heavier the building foundation, the greater the coupling loss as the vibration propagates from the ground into the building.
Building Construction	Since ground-borne vibration and noise are almost always evaluated in terms of indoor receivers, the propagation of the vibration through the building must be considered. Each building has different characteristics relative to structureborne vibration, although the general rule-of-thumb is that the more massive a building is, the lower the levels of ground-borne vibration will be.
Acoustical Absorption	The amount of acoustical absorption in the receiver room affects the levels of ground-borne noise.

## REFERENCES

1. J. T. Nelson, H. J. Saurenman, "State-of-the-Art Review: Prediction and Control of Groundborne Noise and Vibration from Rail Transit Trains," U.S. Department of Transportation, Urban Mass Transportation Administration, Report Number UMTA-MA-06-0049-83-4, DOT-TSC-UMTA-83-3, December 1983.
2. Y. Tokita, "Vibration Pollution Problems in Japan," In *Inter-Noise 75*, Sendai, Japan, pp. 465-472, 1975.

## 8. VIBRATION IMPACT CRITERIA

Because of the relatively rare occurrence of annoyance due to ground-borne vibration and noise, there has been only limited sponsored research of human response to building vibration and structure-borne noise. However, with the construction of new rail rapid transit systems in the past 20 years, considerable experience has been gained as to how communities will react to various levels of building vibration. This experience, combined with the available national and international standards,<sup>(1)(2)</sup> represents a good foundation for predicting annoyance from ground-borne noise and vibration in residential areas.

The criteria for environmental impact from ground-borne vibration and noise are based on the maximum levels for a single event. The criteria presented in Table 8-1 account for variation in project types as well as the frequency of events, which differ widely among transit projects. Most experience is with the community response to ground-borne vibration from rail rapid transit systems with typical headways in the range of 3 to 10 minutes and each vibration event lasting less than 10 seconds. It is intuitive that when there will be many fewer events each day, as is typical for commuter rail projects, it should take higher vibration levels to evoke the same community response. This is accounted for in the criteria by distinguishing between projects with frequent and infrequent events where *Frequent Events* is defined as more than 70 events per day. Most commuter rail projects will fall into the infrequent event category, although some commuter rail lines serving major cities are in the frequent event category.

The criteria are primarily based on experience with passenger train operations with only limited experience from freight train operations. The difference is that passenger train operations whether rapid transit, commuter rail, or intra-city create vibration events that last less than about 10 seconds. A typical line haul freight train is about 5000 feet long. At a speed of 30 mph, it will take a 5000-foot freight train approximately two minutes to pass. Even though the criteria are primarily based on experience with shorter vibration events and this manual is oriented to transit projects, there will be situations where potential impacts from freight train ground-borne vibration will need to be evaluated. The prime example is when freight train tracks must be relocated to provide space for a transit project within a railroad right-of-way. Some guidelines for applying these criteria to freight train operations are given later in this chapter.

The criteria for acceptable ground-borne vibration are expressed in terms of rms velocity levels in decibels and the criteria for acceptable ground-borne noise are expressed in terms of A-weighted sound level. The limits are specified for the three land use categories defined below:

**Vibration Category 1: High Sensitivity** – Included in Category 1 are buildings where low ambient vibration is essential for the operations within the building, which may be well below levels associated with human annoyance. Concert halls and other special use facilities are covered separately in Table 8-2. Typical land uses covered by Category 1 are: vibration-sensitive research and manufacturing, hospitals with vibration-sensitive equipment, and university research operations. The degree of sensitivity to vibration will depend on the specific equipment that will be affected by the vibration. Equipment such as electron microscopes and high resolution lithographic equipment can be very sensitive to vibration, and even normal optical microscopes will sometimes be difficult to use when vibration is well below the human annoyance level. Manufacturing of computer chips is an example of a vibration-sensitive process.

The vibration limits for Vibration Category 1 are based on acceptable vibration for moderately vibration-sensitive equipment such as optical microscopes and electron microscopes with vibration isolation systems. Defining limits for equipment that is even more sensitive requires a detailed review of the specific equipment involved. This type of review is usually performed during the final design phase and not as part of the environmental impact assessment. Mitigation of transit vibration that affects sensitive equipment typically involves modification of the equipment mounting system or relocation of the equipment rather than applying vibration control measures to the transit project.

Note that this category does not include most computer installations or telephone switching equipment. Although the owners of this type of equipment often are very concerned about the potential of ground-borne vibration interrupting smooth operation of their equipment, it is rare for computer or other electronic equipment to be particularly sensitive to vibration. Most such equipment is designed to operate in typical building environments where the equipment may experience occasional shock from bumping and continuous background vibration caused by other equipment.

**Vibration Category 2: Residential** – This category covers all residential land uses and any buildings where people sleep, such as hotels and hospitals. No differentiation is made between different types of residential areas. This is primarily because ground-borne vibration and noise are experienced indoors and building occupants have practically no means to reduce their exposure. Even in a noisy urban area, the bedrooms often will be quiet in buildings that have effective noise insulation and tightly closed windows. Hence, an occupant of a bedroom in a noisy urban area is likely to be just as sensitive to ground-borne noise and vibration as someone in a quiet suburban area.

**Vibration Category 3: Institutional** – Vibration Category 3 includes schools, churches, other institutions, and quiet offices that do not have vibration-sensitive equipment, but still have the potential for activity-interference. Although it is generally appropriate to include office buildings in this category, it is not appropriate to include all buildings that have any office space. For example, most industrial buildings

have office space, but it is not intended that buildings primarily for industrial use be included in this category.

**Table 8-1 Ground-Borne Vibration and Noise Impact Criteria**

Land Use Category	Ground-Borne Vibration Impact Levels (VdB re 1 micro inch/sec)		Ground-Borne Noise Impact Levels (dB re 20 micro Pascals)	
	Frequent <sup>1</sup> Events	Infrequent <sup>2</sup> Events	Frequent <sup>1</sup> Events	Infrequent <sup>2</sup> Events
Category 1: Buildings where low ambient vibration is essential for interior operations.	65 VdB <sup>3</sup>	65 VdB <sup>3</sup>	- <sup>4</sup>	- <sup>4</sup>
Category 2: Residences and buildings where people normally sleep.	72 VdB	80 VdB	35 dBA	43 dBA
Category 3: Institutional land uses with primarily daytime use.	75 VdB	83 VdB	40 dBA	48 dBA
<b>Notes:</b> 1. "Frequent Events" is defined as more than 70 vibration events per day. Most rapid transit projects fall into this category. 2. "Infrequent Events" is defined as fewer than 70 vibration events per day. This category includes most commuter rail systems. 3. This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration sensitive manufacturing or research will require detailed evaluation to define the acceptable vibration levels. Ensuring lower vibration levels in a building often requires special design of the HVAC systems and stiffened floors. 4. Vibration-sensitive equipment is not sensitive to ground-borne noise.				

There are some buildings, such as concert halls, TV and recording studios, and theaters, that can be very sensitive to vibration and noise but do not fit into any of the three categories. Because of the sensitivity of these buildings, they usually warrant special attention during the environmental assessment of a transit project. Table 8-2 gives criteria for acceptable levels of ground-borne vibration and noise for various types of special buildings.

The criteria in Tables 8-1 and 8-2 are related to ground-borne vibration causing human annoyance or interfering with use of vibration-sensitive equipment. It is extremely rare for vibration from train operations to cause any sort of building damage, even minor cosmetic damage. However, there is sometimes concern about damage to fragile historic buildings located near the right-of-way. Even in these cases, damage is unlikely except when the track will be very close to the structure. Damage thresholds that apply to these structures are discussed in Section 12.2.2.



<b>Table 8-2 Ground-Borne Vibration and Noise Impact Criteria for Special Buildings</b>				
<b>Type of Building or Room</b>	<b>Ground-Borne Vibration Impact Levels (VdB re 1 micro-inch/sec)</b>		<b>Ground-Borne Noise Impact Levels (dB re 20 micro-Pascals)</b>	
	<b>Frequent<sup>1</sup> Events</b>	<b>Infrequent<sup>1</sup> Events</b>	<b>Frequent<sup>1</sup> Events</b>	<b>Infrequent<sup>2</sup> Events</b>
Concert Halls	65 VdB	65 VdB	25 dBA	25 dBA
TV Studios	65 VdB	65 VdB	25 dBA	25 dBA
Recording Studios	65 VdB	65 VdB	25 dBA	25 dBA
Auditoriums	72 VdB	80 VdB	30 dBA	38 dBA
Theaters	72 VdB	80 VdB	35 dBA	43 dBA
<b>Notes:</b> 1. "Frequent Events" is defined as more than 70 vibration events per day. Most transit projects fall into this category. 2. "Infrequent Events" is defined as fewer than 70 vibration events per day. This category includes most commuter rail systems. 3. If the building will rarely be occupied when the trains are operating, there is no need to consider impact. As an example consider locating a commuter rail line next to a concert hall. If no commuter trains will operate after 7 pm, it should be rare that the trains interfere with the use of the hall.				

One factor not incorporated in the criteria is how to account for existing vibration. In most cases, the existing environment does not include a significant number of perceptible ground-borne vibration or noise events. The most common example of needing to account for the pre-existing vibration is when the project will be located in an existing rail corridor. Following are methods of handling representative scenarios:

1. *Infrequently-used rail corridor:* Use the standard vibration criteria when the existing rail traffic consists of at most one or two trains per day.
2. *Moderately-used rail corridor:* If the existing traffic consists of more than about 10 trains per day and the train vibration substantially exceeds the impact criteria, there is no impact as long as the project vibration levels estimated using the procedures outlined in either Chapter 10 or 11 are at least 5 to 10 decibels less than the existing vibration. The existing train vibration can be either measured or estimated using the General Assessment procedures in Chapter 10. It is usually preferable to measure vibration from existing train traffic.
3. *Heavily-used rail corridor:* If the project will not significantly increase the number of vibration events, there will not be additional impact unless the project vibration, estimated using the procedures of Chapters 10 or 11, will be higher than the existing vibration. Approximately doubling the number of events is required for a significant increase. An example of this case would be a new commuter rail line sharing part of a corridor with an existing rapid transit system with both systems carrying similar volumes of traffic. When the project will cause vibration higher than the existing, the existing source can be ignored and the standard vibration criteria applied to the project.
4. *Moving existing tracks:* Another scenario where existing vibration can be significant is when a new project will use an existing rail right-of-way and result in shifting the location of existing tracks. The track relocation and reconstruction can result in lower vibration levels, in which case this aspect of the project represents a benefit not an adverse impact. If the track relocation will cause higher vibration

levels at sensitive receptors, then the projected vibration levels must be compared to the appropriate impact criterion to determine if there will be impact. Most freight lines have two to six trains per day, but each train may take several minutes to pass by. For typical freight trains, the locomotive vibration is 5 to 10 decibels higher than vibration from the rail cars.

Although the impact thresholds given in Tables 8-1 and 8-2 are based on experience with vibration from rail transit systems, they can be applied to freight train vibrations as well. A dual approach is recommended with separate consideration of the locomotive and rail car vibration. Because the locomotive vibration only lasts for a few seconds, the infrequent event limit is appropriate. However, for a typical line-haul freight train where the rail car vibration lasts for several minutes, the frequent event limits should be applied to the rail car vibration. Some judgment must be exercised to make sure that the approach is reasonable. For example, some spur rail lines carry very little rail traffic (sometimes only one train per week) or have short trains, in which case the infrequent limits are appropriate.

## REFERENCES

1. Acoustical Society of America, "American National Standard: Guide to Evaluation of Human Exposure to Vibration in Buildings," ANSI S3.29-1983 (ASA 48-1983).
2. International Standards Organization, "Evaluation of Human Exposure to Whole-Body Vibration, Part 2: Continuous and Shock-Induced Vibrations in Buildings (1-80Hz)," ISO-2361-2, 1989.

## 9. VIBRATION SCREENING PROCEDURE

The vibration screening procedure is designed to identify projects that have little possibility of creating significant adverse impact. If the screening procedure does not identify any potential problem areas, it is usually safe to eliminate further consideration of vibration impact from the environmental analysis.

### 9.1 STEPS IN SCREENING PROCEDURE

The steps in the vibration screening procedure are summarized in Figure 9-1 in a flow chart format. Following is a summary of the steps:

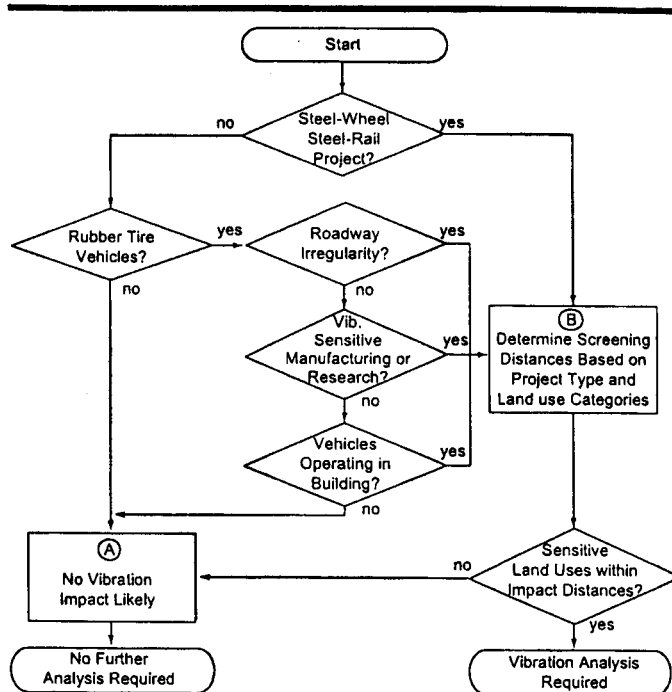
**Initial Decision** – If the project includes any type of steel-wheeled/steel-rail vehicle, there is potential for vibration impact. Proceed directly to the evaluation of screening distances. Transit projects that do not involve vehicles, such as a station rehabilitation, do not have potential for vibration impact unless the track system will be modified (e.g., tracks moved or switches modified). Rail systems include urban rapid transit, light rail transit, commuter rail, and steel-wheel intermediate capacity transit systems. For projects that involve rubber-tire vehicles, vibration impact is unlikely except in unusual situations. Three specific factors shown in Figure 9-1 should be checked to determine if there is potential vibration impact from bus projects or any other projects that involve rubber-tire vehicles:

1. Will there be expansion joints, speed bumps, or other design features that result in unevenness in the road surface near vibration-sensitive buildings? Such irregularities can result in perceptible ground-borne vibration at distances up to 75 feet away.
2. Will buses, trucks or other heavy vehicles be operating close to a sensitive building? Research using electron microscopes and manufacturing of computer chips are examples of vibration sensitive activities.
3. Does the project include operation of vehicles inside or directly underneath buildings that are vibration-sensitive? Special considerations are often required for shared use facilities such bus

stations located inside an office building complex.

**No Impact (Box A)** – The decisions in step 1 lead to either box A, "No vibration impact likely," or box B. Reaching box A indicates that further analysis is not required. The majority of smaller FTA-assisted projects, such as bus terminals and park-and-ride lots, will be eliminated from further consideration of ground-borne vibration impact in the first step.

**Screening Distances (Box B)** – If the result of the first step is that there is potential for vibration impact, determine if any vibration-sensitive land uses are within the screening zones. Vibration-sensitive land uses are identified in Chapter 8. Tables 9-1 and 9-2 are used to determine the applicable vibration screening distances for the project.



**Figure 9-1 Flow Chart of Vibration Screening Process**

**Impact** – If there are any vibration-sensitive land uses within the screening distances, there is the potential for vibration impact. The result of the screening procedure is that vibration impact should be assessed as part of the environmental analysis.

## 9.2 SCREENING DISTANCES

### 9.2.1 Project Categories

The vibration screening procedure is applicable to all types of FTA-assisted projects. The project categories for the vibration screening procedure are summarized in Table 9-1 for four types of rail transit. The fifth category includes all bus projects. Any project that does not include some type of vehicle is not likely to cause vibration impact.

With respect to Project Type 5, the rubber-tire vehicle category, most complaints about vibration caused by buses and trucks are related to rattling of windows or items hung on the walls. These vibrations are usually the result of airborne noise and not ground-borne vibration. In the case where ground-borne vibration is the source of the problem, the vibration can usually be related to potholes, some sort of bump in the road, or other irregularities.

### 9.2.2 Distances

The screening distances are given in Table 9-2. These distances are based on the criteria presented in Chapter 8, with a 5 decibel factor of safety included. The distances have been determined using vibration prediction procedures that are summarized in Chapter 10 assuming "normal" vibration propagation. As discussed in Chapter 10, efficient vibration propagation can result in substantially higher vibration levels. Because of the 5 decibel safety factor, even with efficient propagation, the screening distances will identify most of the potentially impacted areas. By not specifically accounting for the possibility of efficient vibration propagation, there is some possibility that some potential impact areas will not be identified in the screening process. When there is evidence of efficient propagation, such as previous complaints about existing transit facilities or a history of problems with construction vibration, the distances in Table 9-2 should be increased by a factor of 1.5.

**Table 9-1 Project Types for Vibration Screening Procedure**

Project Type	Description
1. Conventional Commuter Railroad	Both the locomotives and the passenger vehicles create significant vibration. The highest vibration levels are usually created by the locomotives. Electric commuter rail vehicles create levels of ground-borne vibration that are comparable to electric rapid transit vehicles.
2. Rail Rapid Transit	Ground-borne vibration impact from rapid transit trains is one of the major environmental issues for new systems. For operation in subway, the ground-borne vibration is usually a significant environmental impact. It is less common for at-grade and elevated rapid transit lines to create intrusive ground-borne vibration.
3. Light Rail Transit	The ground-borne vibration characteristics of light rail systems are very similar to those of rapid transit systems. Because the speeds of light rail systems are usually lower, the typical vibration levels usually are lower. Steel-wheel/steel-rail Automated Guideway Transit (AGT) will fall into either this category or the Intermediate Capacity Transit category depending on the level of service and train speeds.
4. Intermediate Capacity Transit	Because of the low operating speeds of most ICT systems, significant vibration problems are not common. However, steel wheel ICT systems that operate close to vibration sensitive buildings have the potential of causing intrusive vibration. With a stiff suspension system, an ICT system could create intrusive vibration.
5. Bus and Rubber-Tire Transit Projects	This category encompasses most projects that do not include steel-wheel trains of some type. Examples are diesel buses, electric trolley buses, and rubber tired people movers. Most projects that do not include steel-wheel trains do not cause significant vibration impact.

<b>Table 9-2 Screening Distances for Vibration Assessments</b>			
<b>Type of Project</b>	<b>Critical Distance for Land Use Categories* Distance from Right-of-Way or Property Line</b>		
	<b>Cat. 1</b>	<b>Cat. 2</b>	<b>Cat. 3</b>
Conventional Commuter Railroad	600	200	120
Rail Rapid Transit	600	200	120
Light Rail Transit	450	150	100
Intermediate Capacity Transit	200	100	50
Bus Projects (if not previously screened out)	100	50	--
* The land use categories are defined in Chapter 8. Some vibration-sensitive land uses are not included in these categories. Examples are: concert halls and TV studios which, for the screening procedure, should be evaluated as Category 1; and theaters and auditoriums which should be evaluated as Category 2.			

## 10. GENERAL VIBRATION ASSESSMENT

This chapter outlines procedures that can be used to develop generalized predictions of ground-borne vibration and noise. This manual includes three different levels of detail for projecting ground-borne vibration:

**Screening** – The screening procedure is discussed in Chapter 9. A standard table of impact distances is used to determine if ground-borne vibration from the project may affect sensitive land uses. More detailed analysis is required if any sensitive land uses are within the screening distances. The screening procedure does not require any specific knowledge about the vibration characteristics of the system or the geology of the area.

**General Assessment** – The general level of assessment, as described in this chapter, is an extension of the screening procedure. It uses generalized data to develop a curve of vibration level as a function of distance from the track. The vibration levels at specific buildings are estimated by reading values from the curve and applying adjustments to account for factors such as track support system, vehicle speed, type of building, and track and wheel condition. The general level deals only with the overall vibration velocity level and the A-weighted sound level. It does not consider the frequency spectrum of the vibration or noise.

**Detailed Analysis** – Discussed in Chapter 11, the Detailed Analysis involves applying all of the available tools for accurately projecting the vibration impact at specific sites. The procedure outlined in this manual includes a test of the vehicle (or similar vehicle) to define the forces generated by the vibration source and tests at the site in question to define how the local geology affects vibration propagation. It is considerably more complex to develop detailed projections of ground-borne vibration than it is to develop detailed projections of airborne noise. The vibration projection procedure is not only complex, but, at this time, also has not been standardized. Accurate projections of ground-borne vibration require professionals with experience in performing and interpreting vibration propagation tests. As such, detailed vibration predictions are usually performed during the final design phase of a project when there is sufficient reason to suspect adverse vibration impact from the project. The procedure for

Detailed Vibration Analysis presented in Chapter 11 is based on measurements to characterize vibration propagation at specific sites.

There is not always a clear distinction between general and detailed predictions. For example, it is often appropriate to use several representative measurements of vibration propagation along the planned alignment in developing generalized propagation curves. Other times, generalized prediction curves may be sufficient for the majority of the alignment, with detailed analysis applied to particularly sensitive buildings such as a concert hall.

The purpose of the General Assessment is to provide a relatively simple method of developing estimates of the overall levels of ground-borne vibration and noise that can be compared to the acceptability criteria given in Chapter 8. For many projects, particularly when comparing alternatives, this level of detail will be sufficient for the environmental assessment. Where there are potential problems, the Detailed Analysis is then undertaken during final design of the selected alternative to accurately define the level of impact and design mitigation measures. A Detailed Analysis usually will be required when designing special track-support systems such as floating slabs or ballast mats. Detailed Analysis is not usually required if, as is often the case, the mitigation measure consists of relocating a crossover or turnout.

The basic approach for the General Assessment is to define a curve, or set of curves, that predicts the overall ground-surface vibration as a function of distance from the source, then apply adjustments to these curves to account for factors such as vehicle speed, building type, and receiver location within the building. Section 10.1 includes curves of vibration level as a function of distance from the source for the common types of vibration sources such as rapid transit trains and buses. When the vehicle type is not covered by the curves included in this section, it will be necessary to define an appropriate curve either by extrapolating from existing information or performing measurements at an existing facility.

## **10.1 SELECTION OF BASE CURVE FOR GROUND SURFACE VIBRATION LEVEL**

The base curves for three standard transportation systems are defined in Figure 10-1. This figure shows typical ground-surface vibration levels assuming equipment in good condition and speeds of 50 mph for the rail systems and 30 mph for buses. The levels must be adjusted to account for factors such as different speeds and different geologic conditions than assumed. The adjustment factors are discussed in Section 10.2.

The curves in Figure 10-1 are based on measurements of ground-borne vibration at a number of North American transit systems (references 1 through 9). The top curve applies to trains that are powered by diesel-electric locomotives. It includes intercity passenger trains and commuter rail trains. The curve for rapid transit rail cars covers both heavy and light-rail vehicles on at-grade and subway track. It is somewhat surprising that subway and at-grade track can be represented by the same curve since ground-borne vibration created by a train operating in a subway has very different characteristics than vibration from at-grade track. However, in spite of these differences, the overall vibration velocity levels are comparable. Subways tend to have more vibration problems than at-grade track; this is probably due to two factors: (1) subways are usually located



in more densely developed areas, and (2) the airborne noise is usually a more serious problem for at-grade systems than the ground-borne vibration. Another difference between subway and at-grade track is that the ground-borne vibration from subways tends to be higher frequency than the vibration from at-grade track, which makes the ground-borne noise more noticeable.

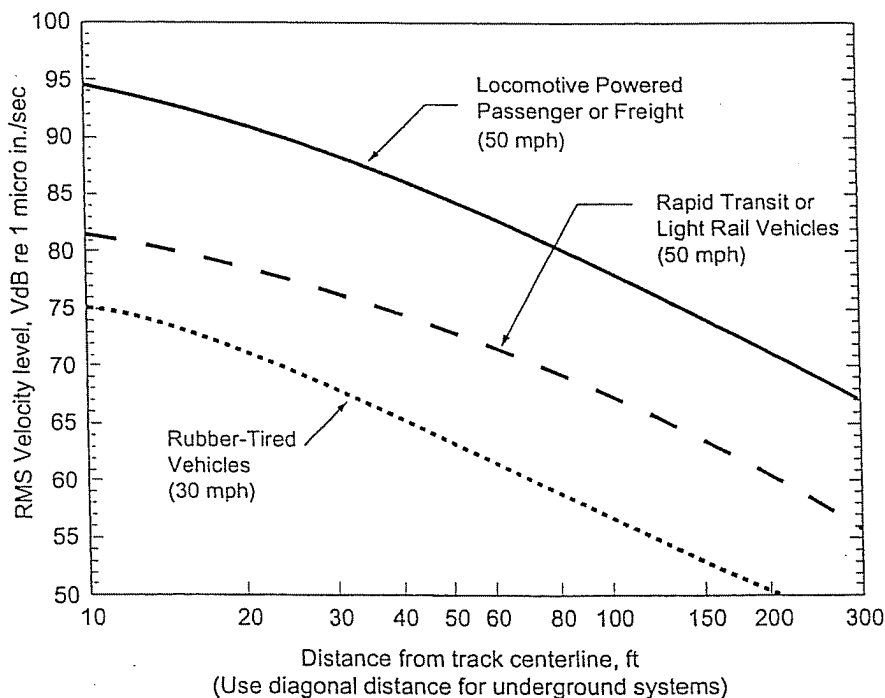


Figure 10-1 Generalized Ground Surface Vibration Curves

The curves in Figure 10-1 were developed from numerous measurements of ground-borne vibration. Experience with ground-borne vibration data is that, for any specific type of transit mode, a 10 decibel fluctuation in vibration levels under apparently similar conditions is not uncommon. The curves in Figure 10-1 represent the upper range of the measurement data, which means that although actual levels fluctuate widely, it is rare that ground-borne vibration will exceed the curves in Figure 10-1 by more than one or two decibels unless there are extenuating circumstances, such as rail corrugations or wheel flats.

One approach to dealing with the normal fluctuation is to show projections as a range. For example, the projected level from Figure 10-1 for an LRT system with train speeds of 50 mph is about 72 VdB at a distance of 60 feet from the track centerline, just at the threshold for acceptable ground-borne vibration for residential land uses. To help illustrate the normal fluctuation, the projected level of ground-borne vibration might be given as 67 to 72 VdB. This approach is not recommended since it tends to confuse the interpretation of whether the projected vibration levels exceed the impact threshold. However, because actual levels of ground-borne vibration will sometimes differ substantially from the projections, some care must be taken when interpreting projections. Some guidelines are given below:

1. Projected vibration is below the impact threshold. Vibration impact is unlikely in this case.

2. Projected ground-borne vibration is 0 to 5 decibels greater than the impact threshold. In this range there is still a significant chance (at least 50%) that actual ground-borne vibration levels will be below the impact threshold. In this case, the impact would be reported in the environmental document as exceeding the applicable threshold and a commitment would be made to conduct more detailed studies to refine the vibration impact analysis and determine appropriate mitigation during final design. A site-specific Detailed Analysis may show that vibration control measures are not needed.
3. Projected ground-borne vibration is 5 decibels or more greater than the impact threshold. Vibration impact is probable and some type of vibration control should be planned for the final design of the project.

The two most important factors that must be accounted for in a General Assessment are the type of vibration source (the mode of transit) and the vibration propagation characteristics. It is well known that there are situations where ground-borne vibration propagates much more efficiently than normal. The result is unacceptable vibration levels at distances two to three times the normal distance. Unfortunately, the geologic conditions that promote efficient propagation have not been well documented and are not fully understood. Shallow bedrock or stiff clay soil often are involved. One possibility is that shallow bedrock acts to keep the vibration energy near the surface. Much of the energy that would normally radiate down is directed back towards the surface by the rock layer with the result that the ground surface vibration is higher than normal.

The selection of a base curve depends on the mode of rail transit under consideration. Appropriate correction factors are then added to account for any unusual propagation characteristics. For less common modes such as magnetically-levitated vehicles (maglev), monorail, or AGT, it is necessary to either make a judgment about which curve and adjustment factors best fit the mode or to develop new estimates of vibration level as a function of distance from the track. For example, the vibration from a rubber-tire monorail that will be operating on aerial guideway can be approximated using the bus/rubber tire systems with the appropriate adjustment for the aerial structure. Another example is a magnetic levitation system. There is very little data available on the noise and vibration characteristics of maglev vehicles. However, as long as there will be little direct contact between the vehicle and the guideway, the vibration forces should be low enough that ground-borne vibration can be ignored.

Considerations for selecting a base curve are discussed below:

**Intercity Passenger Trains** – Although intercity passenger trains can be an important source of environmental vibration, it is rare that they are significant for FTA-funded projects unless a new transit mode will use an existing rail alignment. When a new transit line will use an existing rail alignment, the changes in the intercity passenger traffic can result in either positive or negative impacts. Unless there are specific data available on the ground-borne vibration created by the train operations, the upper curve in Figure 10-1 should be used for intercity passenger trains.

**Locomotive Powered Commuter Rail** – The locomotive curve from Figure 10-1 should be used for any commuter rail system powered by either diesel or electric locomotives. The locomotives often create vibration levels that are 3 to 8 decibels higher than those created by the passenger vehicles. Self-powered electric commuter rail trains can be considered to be similar to rapid transit vehicles. Although

they are relatively rare in the U.S., self-powered diesel commuter rail cars create vibration levels somewhere between rapid transit vehicles and locomotive-powered passenger trains. As long as the axle loads and suspension parameters are comparable to typical rapid transit vehicles, the rapid transit curve in Figure 10-1 can be used for self-powered diesel commuter rail cars.

**Subway Heavy Rail** – Complaints about ground-borne vibration are more common near subways than near at-grade track. This is not because subways create higher vibration levels than at-grade systems, rather it is because subways are usually located in high density areas in close proximity to building foundations. When applied to subways, the rapid transit curve in Figure 10-1 assumes a relatively lightweight bored concrete tunnel in soil. The vibration levels will be lower for heavier subway structures such as cut-and-cover box structures and stations.

**At-Grade Heavy Rail or LRT** – The available data show that heavy rail and light rail transit vehicles create similar levels of ground-borne vibration. This is not surprising since the vehicles have similar suspension systems and axle loads. Light-rail systems tend to have fewer problems with ground-borne vibration because of the lower operating speeds. Similar to the subway case, an adjustment factor must be used if the transit vehicle has a primary suspension that is stiff in the vertical direction.

**Intermediate Capacity Transit** – The vibration levels created by an intermediate capacity transit system or an AGT system will depend on whether the vehicles have steel wheels or rubber wheels. If they have steel wheels, the transit car curve in Figure 10-1 should be used with appropriate adjustments for operating speed. The bus/rubber tire curve should be used for rubber-tired ICT systems.

**Bus/Rubber Tire** – Rubber-tire vehicles rarely create ground-borne vibration problems unless there is a discontinuity or bump in the road that causes the vibration. The curve in Figure 10-1 shows the vibration level for a typical bus operating on smooth roadway.

## 10.2 ADJUSTMENTS

Once the base curve has been selected, the adjustments in Table 10-1 can be used to develop vibration projections for specific receiver positions inside buildings. All of the adjustments are given as single numbers to be added to, or subtracted from, the base level. The adjustment parameters are speed, wheel and rail type and condition, type of track support system, type of building foundation, and number of floors above the basement level. It should be recognized that many of these adjustments are strongly dependent on the frequency spectrum of the vibration source and the frequency dependence of the vibration propagation. The single number values are suitable for generalized evaluation of the vibration impact and vibration mitigation measures since they are based on typical vibration spectra. However, the single number adjustments are not adequate for detailed evaluations of impact of sensitive buildings or for detailed specification of mitigation measures. Detailed Analysis requires consideration of the relative importance of different frequency components.

**Table 10-1 Adjustment Factors for Generalized Predictions of Ground-Borne Vibration and Noise**

<b>Factors Affecting Vibration Source</b>			
<b>Source Factor</b>	<b>Adjustment to Propagation Curve</b>		
	<b>Vehicle Speed</b>	<b>Reference Speed</b>	
<b>Speed</b>		<b>50 mph</b>	<b>30 mph</b>
	60 mph	+1.6 dB	+6.0 dB
	50 mph	0.0 dB	+4.4 dB
	40 mph	-1.9 dB	+2.5 dB
	30 mph	-4.4 dB	0.0 dB
	20 mph	-8.0 dB	-3.5 dB
<b>Vehicle with stiff primary suspension</b>		+8 dB	
<b>Resilient Wheels</b>		0 dB	
<b>Worn Wheels or Wheels with Flats</b>		+10 dB	
<b>Worn or Corrugated Track</b>		+10 dB	
<b>Crossovers and Other Special Trackwork</b>		+10 dB	
<b>Jointed Track</b>		+5 dB	
<b>Floating Slab Trackbed</b>		-15 dB	
<b>Ballast Mats</b>		-10 dB	
<b>High Resilience Fasteners</b>		-5 dB	
<b>Resiliently Supported Ties</b>		-10 dB	
<b>Type of Transit Structure</b>	<b>Relative to at-grade tie &amp; ballast:</b>		
	Elevated structure		-10 dB
	Open Cut		0 dB
	<b>Relative to bored subway tunnel in soil:</b>		
	Station		-5 dB
	Cut and Cover		-3 dB
	Rock-Based		-15 dB
<b>Comment</b>			
Vibration level is approximately proportional to $20 \cdot \log(\text{speed}/\text{speed}_{ref})$ . Sometimes the variation with speed has been observed to be as low as 10 to 15 $\log(\text{speed}/\text{speed}_{ref})$ .			
Transit vehicles with stiff primary suspensions have been shown to create high vibration levels. Include this adjustment when the primary suspension has a vertical resonance frequency greater than 15 Hz.			
Resilient wheels do not generally affect ground-borne vibration except at frequencies greater than about 80 Hz.			
Wheel flats or wheels that are unevenly worn can cause high vibration levels. This can be prevented with wheel truing and slip-slide detectors to prevent the wheels from sliding on the track.			
If both the wheels and the track are worn, only one adjustment should be used. Corrugated track is a common problem, however, it is difficult to predict the conditions that cause corrugations to occur. Rail grinding can remove rail corrugations. Mill scale on new rail can cause higher vibration levels until the rail has been in use for some time.			
Wheel impacts at special trackwork will significantly increase vibration levels. The increase will be less at greater distances from the track.			
Jointed track causes higher vibration levels than welded track. The difference depends on the condition of the rail joints.			
The reduction achieved with a floating slab trackbed is strongly dependent on the frequency characteristics of the vibration.			
Actual reduction is strongly dependent on frequency of vibration.			
Slab track with track fasteners that are very compliant in the vertical direction can reduce vibration at frequencies greater than 40 Hz.			
Resiliently supported tie systems have been found to provide very effective control of low-frequency vibration.			
The general rule is the heavier the structure the lower the vibration levels. Putting the track in cut may reduce the vibration levels slightly. Rock based subways will create higher-frequency vibration.			

Table 10-1 continued...				
Factors Affecting Vibration Path				
Path Factor	Adjustment to Propagation Curve			Comment
Geologic conditions that promote efficient vibration propagation	Efficient propagation in soil		+10 dB	Refer to the text for guidance on identifying areas where efficient propagation is possible.
	Propagation in rock layer	Dist.	Adjust.	
		50 ft	+2 dB	The positive adjustment accounts for the lower attenuation of vibration in rock compared to soil. Because it is more difficult to get vibration energy into rock, propagation through rock usually results in lower vibration than propagation through soil.
		100 ft	+4 dB	
		150 ft	+6 dB	
200 ft	+9 dB			
Coupling to building foundation	Wood Frame		-5 dB	The general rule is the heavier the building construction, the greater the coupling loss.
	1-2 Story Commercial		-7 dB	
	2-4 Story Masonry		-10 dB	
	Large Masonry on Piles		-10 dB	
	Large Masonry on Spread Footings		-13 dB	
	Foundation in Rock		0 dB	
Factors Affecting Vibration Receiver				
Receiver Factor	Adjustment to Propagation Curve			Comment
Floor-to-floor attenuation	1 to 5 floors above grade:		-2 dB/floor	This factor accounts for dispersion and attenuation of the vibration energy as it propagates through a building.
	5 to 10 floors above grade:		-1 dB/floor	
Amplification due to resonances of floors, walls, and ceilings	+6 dB			The actual amplification will vary greatly depending on the type of construction. The amplification is lower near the wall/floor and wall/ceiling intersections.
Radiated Sound	Peak frequency of ground vibration:			Use these adjustments to estimate the A-weighted sound level given the average vibration velocity level of the room surfaces. See text for guidelines for selecting low, typical or high frequency characteristics. Use the high-frequency adjustment for subway tunnels in rock or if the dominant frequencies of the vibration spectrum are known to be 60 Hz or greater.
	Low frequency (<30 Hz):		-50 dB	
	Typical (peak 30 to 60 Hz):		-35 dB	
	High frequency (>60 Hz):		-20 dB	

Without careful consideration of the shape of the actual vibration spectra, an inappropriate vibration control measure may be selected that could actually cause an increase in the vibration levels.

The following guidelines are used to select the appropriate adjustment factors. Note that the adjustments for wheel and rail condition are not cumulative. The general rule-of-thumb to use when more than one adjustment may apply is to apply only the largest adjustment. For example: the adjustment for jointed track is 5 decibels and the adjustment for wheel flats is 10 decibels. In an area where there is jointed track and many vehicles have wheel flats, the projected vibration levels should be increased by 10 decibels, not 15 decibels.

**Train Speed** – The levels of ground-borne vibration and noise vary approximately as 20 times the logarithm of speed. This means that doubling train speed will increase the vibration levels approximately 6 decibels and halving train speed will reduce the levels by 6 decibels. Table 10-1 tabulates the adjustments for reference vehicle speeds of 30 mph for rubber-tired vehicles and 50 mph for steel-wheel vehicles. The relationship:

$$\text{adjustment (dB)} = 20 \times \log \left( \frac{\text{speed}}{\text{speed}_{\text{ref}}} \right)$$

should be used to calculate the adjustments for other speeds.

**Vehicle** – The most important factors for the vehicles are the suspension system, wheel condition, and wheel type. Most new heavy rail and light rail vehicles have relatively soft primary suspensions. However, there were a number of vehicles delivered to U.S. transit systems in the past 20 years with very stiff primary suspensions. Experience in Atlanta, New York, and other cities has demonstrated that a stiff primary suspension (vertical resonance frequency greater than 15 Hz) can result in higher than normal levels of ground-borne vibration. Vehicles for which the primary suspension consists of a rubber or neoprene "donut" around the axle bearing usually have a very stiff primary suspension with a vertical resonance frequency greater than 40 Hz.

Deteriorated wheel condition is another factor that will increase vibration levels. It can be assumed that a new system will have good condition wheels. However, when older vehicles will be used on new track, it may be appropriate to include an adjustment for wheel condition. Wheels with flats or corrugations can cause vibration levels that are 10 decibels higher than normal. Resilient wheels will reduce vibration levels at frequencies greater than the effective resonance frequency of the wheel. Because this resonance frequency is relatively high, often greater than 80 Hz, resilient wheels usually have only a marginal effect on ground-borne vibration.

**Track System and Support** – This category includes the type of rail (welded, jointed or special trackwork), the track support system, and the condition of the rail. The base curves all assume good condition welded rail. Jointed rail causes higher vibration levels than welded rail; the amount higher depends on the condition of the joints. The wheel impacts at special trackwork, such as frogs at crossovers, create much higher vibration forces than normal. Because of the higher vibration levels at special trackwork, crossovers often end up being the principal areas of vibration impact on new systems. Modifying the track support system is one method of mitigating the vibration impact. Special track support systems such as ballast mats, high resilience track fasteners, resiliently supported ties, and floating slabs have all been shown to be effective in reducing vibration levels.

The condition of the running surface of the rails can strongly affect vibration levels. Factors such as corrugations, general wear, or mill scale on new track can cause vibration levels that are 5 to 15 decibels higher than normal. Mill scale will usually wear off after some time in service, however, the track must be ground to remove corrugations or to reduce the roughness from wear.

**Transit Structure** – The weight and size of a transit structure affects the vibration radiated by that structure. The general rule-of-thumb is that vibration levels will be lower for heavier transit structures. Hence, the vibration levels from a cut-and-cover concrete double-box subway can be assumed to be lower than the vibration from a lightweight concrete-lined bored tunnel. The vibration from elevated structures is lower than from at-grade track because of the mass of the structure and the extra distance that the vibration must travel before it reaches the receiver.

**Propagation Characteristics** – In the General Assessment it is necessary to make a selection among the general propagation characteristics. For a subway, the selection is a fairly straightforward choice of whether or not the subway will be founded in bedrock. Bedrock is considered to be hard rock. It is usually appropriate to consider soft siltstone and sandstone to be more similar to soil than hard rock. As seen in Table 10-1, whether the subway is founded in soil or rock will make up to a 15 decibel difference in the vibration levels.

When considering at-grade vibration sources, the selection is between "normal" vibration propagation and "efficient" vibration propagation. Efficient vibration propagation results in approximately 10 decibels higher vibration levels. This more than doubles the potential impact zone for ground-borne vibration. One of the problems with identifying the cause of efficient propagation is the difficulty in determining whether higher than normal vibration levels are due to geologic conditions or due to special source conditions (e.g. rail corrugations or wheel flats).

Although it is known that geologic conditions have a significant effect on the vibration levels, it is rarely possible to develop more than a broad-brush understanding of the vibration propagation characteristics for a General Assessment. The conservative approach would be to use the 10 decibel adjustment for efficient propagation to evaluate all potential vibration impact. The problem with this approach is that it tends to greatly overstate the potential for vibration impact. Hence, it is best to review available geological data and any complaint history from existing transit lines and major construction sites near the transit corridor to identify areas where efficient propagation is possible. If there is any reason to suspect efficient propagation conditions, then a Detailed Analysis during final design would include vibration propagation tests at the areas identified as potentially efficient propagation sites.

Some geologic conditions are repeatedly associated with efficient propagation. Shallow bedrock, less than 30 ft below the surface, is likely to have efficient propagation. Other factors that can be important are soil type and stiffness. In particular, stiff clayey soils have sometimes been associated with efficient vibration propagation. Investigation of soil boring records can be used to estimate depth to bedrock and the presence of problem soil conditions.

A factor that can be particularly complex to address is the effect of vibration propagation through rock. There are three factors from Table 10-1 that need to be included when a subway structure will be founded in rock. First is the -15 decibel adjustment in the "Type of Transit Structure" category. Second is the adjustment based on the propagation distance in the "Geologic Conditions" category. This positive adjustment increases with distance because vibration attenuates more slowly in rock than in soil. The third factor is in the "Coupling to Building" category. When a building foundation is directly on the rock layer, there is no "coupling loss" due to the weight and stiffness of the building. Use the standard coupling factors if there is at least a 10-foot layer of soil between the building foundation and the rock layer.

**Type of Building and Receiver Location in Building** – Since annoyance from ground-borne vibration and noise is an indoor phenomenon, the effects of the building structure on the vibration must be considered. Wood frame buildings, such as the typical residential structure, are more easily excited by ground vibration than heavier buildings. In contrast, large masonry buildings with spread footings have a low response to ground vibration.

Vibration generally reduces in level as it propagates through a building. As indicated in the table, a 1 to 2 decibel attenuation per floor is usually assumed. Counteracting this, resonances of the building structure, particularly the floors, will cause some amplification of the vibration. Consequently, for a wood-frame structure, the building-related adjustments nearly cancel out. The adjustments for the first floor assuming a basement are: -5 decibels for the coupling loss; -2 decibels for the propagation from

the basement to the first floor; and +6 decibels for the floor amplification. The total adjustment is -1 decibel.

**Vibration to Ground-Borne Noise Adjustment** – It is possible to estimate the levels of radiated noise given the average vibration amplitude of the room surfaces (floors, walls and ceiling), and the total acoustical absorption in the room. The average result is that the sound pressure level is approximately equal to the vibration velocity level when the velocity level is referenced to  $1 \times 10^6$  in./sec. However, to estimate the A-weighted sound level from the velocity level, it is necessary to have some information about the frequency spectrum. The A-weighting adjustment drops rapidly at low frequencies reflecting the relative insensitivity of human hearing to low frequencies. For example, A-weighting is -16 dB at 125 Hz, -26 dB at 60 Hz and -40 dB at 30 Hz. Table 10-1 provides adjustments for vibration depending on whether it has low-frequency, typical or high-frequency characteristics. Some general guidelines for classifying the frequency characteristics are:

- **Low Frequency:** Low-frequency vibration characteristics can be assumed for subways surrounded by cohesiveless sandy soil or whenever a vibration isolation track support system will be used. Low-frequency characteristics can be assumed for most surface track.
- **Typical:** The typical vibration characteristic is the default assumption for subways. It should be assumed for subways until there is information indicating that one of the other assumptions is appropriate. It should be used for surface track when the soil is very stiff with a high clay content.
- **High Frequency:** High-frequency characteristics should be assumed for subways whenever the transit structure is founded in rock or when there is very stiff clayey soil.

### 10.3 INVENTORY OF VIBRATION-IMPACTED LOCATIONS

This chapter includes generalized curves for surface vibration for different transit modes along with adjustments to apply for specific operating conditions and buildings. The projected levels are then compared with the criteria in Chapter 8 to determine whether vibration impact is likely. The results of the General Assessment are expressed in terms of an inventory of all sensitive land uses where either ground-borne vibration or ground-borne noise from the project may exceed the impact thresholds. The General Assessment may include a discussion of mitigation measures which would likely be needed to reduce vibration to acceptable levels.

The purpose of the procedure is to develop a reasonably complete inventory of the buildings that may experience ground-borne vibration or noise that exceed the impact criteria. At this point, it is preferable to make a conservative assessment of the impact. That is, it is better to include some buildings where ground-borne vibration may be below the impact threshold than to exclude buildings where it may exceed the impact threshold. The inventory should be organized according to the categories described in Chapter 8. For each building where the projected ground-borne vibration or noise exceeds the applicable impact threshold, one



or more of the vibration control options from Section 11.4 should be considered for applicability. See Section 11.3 for a more complete description of how the General Vibration Assessment fits into the overall procedure.

## REFERENCES

1. J.T. Nelson, H.J. Saurenman, G.P. Wilson, "Metrorail Operational Sound Level Measurements: Ground-Borne Vibration and Noise Levels," prepared by Wilson Ihrig & Associates for Washington Metropolitan Area Transit Authority, December 1979.
2. "Yonge Subway Northern Extension Noise and Vibration Study," Toronto Transit Commission, Subway Construction Branch, Report RD 115/3, October 1976.
3. D.A. Towers, C.E. Hanson, G.S. Anderson, "Calgary LRT Noise and Vibration Assessment," Bolt Beranek and Newman Report No. 3957, December 1978.
4. H.S. Gill, S.L. Wolfe, H.J. Saurenman, "Comparison of Levels of Ground-Borne Vibration Generated with Chicago Transit Authority 2200 and 2400 Vehicles," technical memorandum prepared for US DOT/Transportation Systems Center, Contract TS-17101, August 17, 1983.
5. G.P. Wilson, "Ground-Borne Vibration Levels from Rock and Earth Based Subways," prepared for Washington Metropolitan Area Transit Authority Metro System, September 1971.
6. H.J. Saurenman, J.T. Nelson, "Ground-Borne Vibration Tests with MARTA C-Car," technical report prepared for Metropolitan Atlanta Rapid Transit Authority, November 16, 1981.
7. J.T. Nelson, "Ground Vibration Propagation Measurements, Hayward Test Track," technical memorandum prepared for US DOT/Transportation Systems Center, Contract DOT-TSC-1796, May 5, 1982.
8. H.J. Saurenman, S.L. Wolfe, "Light Rail Transit Ground-Borne Vibration Assessment," technical memorandum prepared for US DOT/Transportation Systems Center, contract DTRS 57-84-P-81490, October 1, 1984.
9. "Noise and Vibration Conditions Report, Bowdoin/Charles Connector Project," HMMH Report 260360, prepared by Harris Miller Miller & Hanson Inc. for the Massachusetts Bay Transportation Authority, November 1987.

## 11. DETAILED VIBRATION ANALYSIS

The goal of the Detailed Analysis is to use all available tools to develop accurate projections of potential ground-borne vibration impact and, when necessary, to design mitigation measures. This is appropriate when the General Assessment has indicated impact and the project has entered the final design and engineering phase. It may also be appropriate to perform a Detailed Analysis at the outset when there are particularly sensitive land uses within the screening distances. Detailed Analysis will require developing estimates of the frequency components of the vibration signal, usually in terms of 1/3 octave band spectra. Analytical techniques for solving vibration problems are complex and the technology continually advances. Consequently, the approach presented in this chapter focuses on the key steps usually taken by a professional in the field.

Three examples of cases where Detailed Vibration Analysis might be required are:

Example 1: A particularly sensitive building such as a major concert hall is within the impact zone. A Detailed Analysis would ensure that effective vibration mitigation is feasible and economically reasonable.

Example 2: The General Assessment indicates that a proposed commuter rail project has the potential to create vibration impact for a large number of residential buildings adjacent to the alignment. The projections for many of the buildings exceed the impact threshold by less than 5 decibels, which means that more accurate projections may show that vibration levels will be below the impact criterion. If the cost of the vibration mitigation measures would have a significant impact on the project costs, a Detailed Analysis to determine the impact as accurately as possible is warranted.

Example 3: A transit alignment will be close to university research buildings where vibration-sensitive optical instrumentation is used. Vibration from the trains could make it impossible to continue using the building for this type of research. A Detailed Analysis would determine if it is possible to control the vibration from the trains such that sensitive instrumentation will not be affected.

A Detailed Vibration Analysis consists of three parts:

1. **Survey Existing Vibration.** Although knowledge of the existing levels of ground-borne vibration is not usually required for the assessment of vibration impact, there are times when a survey of the existing vibration is valuable. Examples include documenting existing background vibration at sensitive buildings, measuring the vibration levels created by sources such as existing rail lines, and, in some cases, characterizing the general background vibration in the project corridor. Characterizing the existing vibration is discussed in Section 11.1.
2. **Predict Future Vibration and Vibration Impact.** All of the available tools should be applied in a Detailed Analysis to develop the best possible estimates of the potential for vibration impact. Section 11.2 discusses an approach to projecting ground-borne vibration that involves performing tests to characterize vibration propagation at sites where significant impact is probable. Section 11.3 describes the vibration propagation test procedure and Section 11.4 discusses the assessment of vibration impact.
3. **Develop Mitigation Measures.** Controlling the impact from ground-borne vibration requires developing cost-effective measures to reduce the vibration levels. The Detailed Analysis helps to select practical vibration control measures that will be effective at the dominant vibration frequencies and compatible with the given transit structure and track support system. Vibration mitigation measures are discussed in Section 11.5.

The discussion in this chapter generally assumes that detailed vibration analysis applies to a steel-wheel rail system. The procedures could be adapted to bus systems. However, this is rarely necessary because vibration problems are very infrequent with rubber-tired transit.

## 11.1 CHARACTERIZING EXISTING VIBRATION CONDITIONS

Environmental vibration is rarely of sufficient magnitude to be perceptible or cause audible ground-borne noise unless there is a specific vibration source close by, such as a rail line. In most cases, feelable vibration inside a building is caused by equipment or activities within the building itself, such as heating and ventilation systems, footsteps or doors closing. Because the existing environmental vibration is usually below human perception, a limited vibration survey is sufficient even for a Detailed Analysis. This contrasts with analysis of noise impact where documenting the existing ambient noise level is required to assess the impact.

Examples of situations where measurements of the ambient vibration are valuable include:

- **Determining existing vibration at sensitive buildings.** Serious vibration impact may occur when there is vibration-sensitive manufacturing, research, or laboratory activities within the screening distances. Careful documentation of the pre-existing vibration provides valuable information on the real sensitivity of the activity to external vibration and gives a reference condition under which vibration is not a problem.

- **Using existing vibration sources to characterize propagation.** Existing vibration sources such as freight trains, industrial processes, quarrying operations, or normal traffic sometimes can be used to characterize vibration propagation. Carefully designed and performed measurements may eliminate the need for more complex propagation tests.
- **Documenting existing levels of general background.** Some measurements of the existing levels of background vibration can be useful simply to document that, as expected, the vibration is below the normal threshold of human perception. Existing vibration in urban and suburban areas is usually due to traffic. If a measurement site has existing vibration approaching the range of human perception (e.g., the maximum vibration velocity levels are greater than about 65 VdB), then this site should be carefully evaluated for the possibility of efficient vibration propagation. Areas with efficient vibration propagation could have vibration problems when the project is built.
- **Documenting vibration from existing rail lines.** Measurements to document the levels of vibration created by existing rail lines can be important in evaluating the impact of the new vibration source and determining vibration propagation characteristics in the area. As discussed in Chapter 8, if vibration from an existing rail line will be higher than that from the transit trains, there may not be impact even though the normal impact criterion would be exceeded.

Although ground-borne vibration is almost exclusively a problem inside buildings, measurements of existing ambient vibration generally should be performed outdoors. Two important reasons for this are: (1) equipment inside the building may cause more vibration than exterior sources, and (2) the building structure and the resonances of the building can have strong, but difficult to predict, effects on the vibration. However, there are some cases where measurements of indoor vibration are important. Documenting the vibration levels inside a vibration-sensitive building can be particularly important since equipment and activities inside the building sometimes causes vibration greater than that due to external sources such as street traffic or aircraft overflights. Floor vibration measurements are taken near the center of a floor span where the vibration amplitudes are the highest.

The goal of most ambient vibration tests is to characterize the rms vertical vibration velocity level at the ground surface. In almost all cases it is sufficient to measure only vertical vibration and ignore the transverse components of the vibration. Although transverse components can transmit significant vibration energy into a building, the vertical component usually has greater amplitudes than transverse vibration. Moreover, vertical vibration is usually transmitted more efficiently into building foundations than transverse vibration.

The manner in which a transducer is mounted can affect the measured levels of ground-borne vibration. However, research has shown that, at the frequencies usually of concern for ground-borne vibration (less than about 200 Hz), straightforward methods of mounting transducers on the ground surface or on pavement are adequate for vertical vibration measurements.<sup>(1)(2)(3)</sup> Quick-drying epoxy or beeswax are often used to mount transducers to smooth paved surfaces or to metal stakes driven into the ground. Rough concrete or rock surfaces require special mountings. One approach is to use a liberal base of epoxy to attach small aluminum blocks to the surface and then mount the transducers on the aluminum blocks.

Selecting sites for an ambient vibration survey primarily requires good common sense. Sites selected to characterize a transit corridor should be distributed along the entire project and should be representative of the types of vibration environments found in the corridor. This would commonly include:

- measurements in quiet residential areas removed from major traffic arterials to characterize low-ambient vibrations;
- measurements along major traffic arterials and highways or freeways to characterize high vibration areas;
- measurements in any area with vibration-sensitive activities; and
- measurements at any significant existing source of vibration such as railroad lines.

The transducers should be located near the building setback line for background vibration measurements. Ambient measurements along railroad lines ideally will include: multiple sites; several distances from the rail line at each site; and 4 to 10 train passbys for each test. Because of the irregular schedule for freight trains and the low number of operations each day, it is often impractical to perform tests at more than two or three sites along the rail line or to measure more than two or three passbys at each site. Rail type and condition strongly affect the vibration levels. Consequently, it is important to inspect the track at each measurement site to locate any switches, bad rail joints, corrugations, or other factors that could be responsible for higher than normal vibration levels.

The appropriate methods of characterizing ambient vibration are dependent on the type of information required for the analysis. Following are some examples:

**Ambient Vibration** – Ambient vibration is usually characterized with a continuous 10 to 30 minute measurement of vibration. The  $L_{eq}$  of the vibration velocity level over the measurement period gives an indication of the average vibration energy.  $L_{eq}$  is equivalent to a long averaging time rms level. Specific events can be characterized by the maximum rms level ( $L_{max}$ ) of the event or by performing a statistical analysis of rms levels over the measurement period. An rms averaging time of 1 second should be used for statistical analysis of the vibration level.

**Specific Events** – Specific events such as train passbys should be characterized by the rms level during the time that the train passes by. If the locomotives have vibration levels more than 5 dB higher than the vehicles, a separate rms level for the locomotives should be obtained. The locomotives can usually be characterized by the  $L_{max}$  during the train passby. The rms averaging time or time constant should be 1 second when determining  $L_{max}$ . Sometimes it is adequate to use  $L_{max}$  to characterize the train passby, which is simpler to obtain than the rms averaged over the entire train passby.

**Spectral Analysis** – When the vibration data will be used to characterize vibration propagation or for other special analysis, a spectral analysis of the vibration is required. An example would be if vibration transmission characteristics of the ground are suspected of having particular frequency characteristics. For many analyses, 1/3-octave band charts are best for describing the vibration characteristics. Narrowband spectra also can be valuable, particularly for identifying pure-tone characteristics and designing mitigation measures.

Note it is preferable that ambient vibration be characterized in terms of the rms velocity level, not the peak particle velocity (ppv), which is commonly used to monitor construction vibration. As discussed in Chapter 7, rms is considered more appropriate than ppv for describing human response to building vibration.

## 11.2 VIBRATION PREDICTION PROCEDURE

Predicting ground-borne vibration associated with a transportation project is a developing field. Because ground-borne vibration is a complex phenomenon that is difficult to model and predict accurately, most projection procedures that have been used for transit projects rely on empirical data. Although no single method stands out as the best approach for all situations, the procedure described in this section is one of the most promising because it is based on site-specific tests of vibration propagation. The procedure, which was developed under an FTA (formerly UMTA) research contract,<sup>(4)</sup> is recommended for detailed evaluations of ground-borne vibration. There have been other approaches to a prediction procedure including some that use pure numerical methods. An approach using finite elements showed potential,<sup>(5)</sup> however, to date none of the numerical approaches has been developed beyond the conceptual stage.

### 11.2.1 Overview of Prediction Procedure

The prediction method described in this section was developed to allow using data collected in one city to accurately predict vibration levels in another city where the geologic conditions may be completely different. The procedure is based on using a special measured function, called *transfer mobility*. Transfer mobility measured at an existing transit system is used to normalize ground-borne vibration data and remove the effects of geology. The normalized vibration is referred to as the force density. The force density can be combined with transfer mobility measurements at sensitive sites along a new project to develop projections of future ground-borne vibration.

Transfer mobility represents the relationship between a vibration source that excites the ground and the resulting vibration of the ground surface. It is a function of both frequency and distance from the source. The transfer mobility between two points completely defines the composite vibration propagation characteristics between the two points. In most practical cases, receivers are close enough to the train tracks that the vibration cannot be considered to be originating from a single point. The vibration source must be modeled as a line source. Consequently, the point transfer mobility must be modified to account for a line source. In the following text,  $TM_{\text{point}}$  is used to indicate the measured point source transfer mobility and  $TM_{\text{line}}$  is used for the line source transfer mobility derived from  $TM_{\text{point}}$ .

The prediction procedure considers ground-borne vibration to be divided into several basic components as shown schematically in Figure 11-1. The components are:

1. **Excitation Force:** The vibration energy is created by oscillatory and impulsive forces. Steel wheels rolling on smooth steel rails create random oscillatory forces. When a wheel encounters a discontinuity such as a rail joint, an impulsive force is created. The force excites the transit structure, such as the subway tunnel, or the ballast for at-grade track. In the prediction method, the combination of the actual

force generated at the wheel/rail interface and the vibration of the transit structure are usually combined into an equivalent force density level. The force density level describes the force that excites the soil/rock surrounding the transit structure.

2. **Vibration Propagation:** The vibration of the transit structure causes vibration waves in the soil that propagate away from the transit structure. The vibration energy can propagate through the soil or rock in a variety of wave forms. All ground vibration includes shear and compression waves. In addition, Rayleigh waves, which propagate along the ground surface, can be a major carrier of vibration energy. The mathematical modeling of vibration is complicated when, as is usually the case, there are soil strata with different elastic properties. As indicated in Figure 11-1, the propagation through the soil/rock is modeled using the transfer mobility, which is usually determined experimentally.

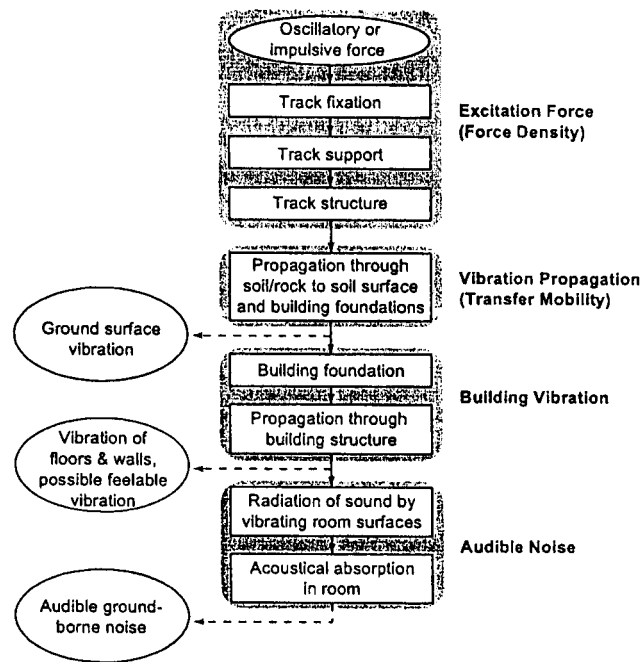


Figure 11-1 Block Diagram of Ground-Borne Vibration and Noise Model

The combination of the force density level and the transfer mobility is used to predict the ground-surface vibration. Here is the essential difference between the General and Detailed approaches: the projection process is simplified in a General Assessment by going directly to generalized estimates of the ground-surface vibration.

3. **Building Vibration:** When the ground vibration excites a building foundation, it sets the building into vibration motion and starts vibration waves propagating throughout the building structure. The interaction between the ground and the foundation causes some reduction in vibration levels. The amount of reduction is dependent on the mass and stiffness of the foundation. The more massive the foundation, the lower the response to ground vibration. As the vibration waves propagate through the building, they can create feelable vibration and can cause annoying rattling of windows and decorative items either hanging or on shelves.
4. **Audible Noise:** In addition to feelable vibration, the vibration of room surfaces radiates low-frequency sound that may be audible. As indicated in Figure 11-1, the sound level is affected by the amount of acoustical absorption in the receiver room.

A fundamental assumption of the prediction approach outlined here is that the force density, transfer mobility, and the building coupling to the ground are all independent factors. The following equations are the basis for the prediction procedure where all of the quantities are in decibels with consistent reference values:

$$L_v = L_F + TM_{line} + C_{build}$$

$$L_A = L_v + K_{rad} + K_{A-wt}$$

- where:
- $L_v$  = rms vibration velocity level in one 1/3 octave band,
  - $L_A$  = A-weighted sound level in one 1/3 octave band,
  - $L_F$  = force density for a line vibration source such as a train,
  - $TM_{line}$  = line source transfer mobility from the tracks to the sensitive site,
  - $C_{build}$  = adjustments to account for ground–building foundation interaction and attenuation of vibration amplitudes as vibration propagates through buildings,
  - $K_{rad}$  = adjustment to account for conversion from vibration to sound pressure level including accounting for the amount of acoustical absorption inside the room (A value of zero can be used for  $K_{rad}$  for typical residential rooms when the decibel reference value for  $L_v$  is 1 micro in./sec.<sup>(4)</sup>),
  - $K_{A-wt}$  = A-weighting adjustment at the 1/3 octave band center frequency.

All of the quantities given above are functions of frequency. The standard approach to dealing with the frequency dependence is to develop projections on a 1/3 octave band basis using the average values for each 1/3 octave band. The end result of the analysis is the 1/3 octave band spectra of the ground-borne vibration and the ground-borne noise. The spectra are then used to calculate the overall vibration velocity level and the A-weighted sound level. This is in contrast to the General Assessment where the overall vibration velocity level and A-weighted sound level are predicted without any consideration of the particular frequency characteristics of the propagation path.

### 11.2.2 Major Steps in Detailed Analysis

The major steps in performing a Detailed Analysis are intended to obtain quantities for the equations given above. These are:

1. Develop estimates of the force density. The estimate of force density can be based on previous measurements (e.g., References 4, 9, 10 or 11) or a special test program can be designed to measure the force density at an existing facility. If no suitable measurements are available, testing should be done at a transit facility with equipment similar to the planned vehicles. Adjustments for factors such as train speed, track support system, and vehicle suspension may be needed to match the force density to the conditions at specific sites. Some appropriate adjustments can be found in the report "State-of-the-Art Review: Prediction and Control of Ground-Borne Noise and Vibration from Rail Transit Trains."<sup>(6)</sup>



2. Measure the point source transfer mobility at representative sites. The transfer mobility is a function of both frequency and distance from the source.
3. Use numerical integration to estimate a line source transfer mobility from the point source transfer mobilities. The combination of force density and line source transfer mobility is used to project ground-surface vibration.
4. Add adjustment factors to estimate the building response to the ground-surface vibration and to estimate the A-weighted sound level inside buildings.

The two key elements of the transfer mobility procedure are a measured force function that represents the vibration energy put into the ground and a measured transfer mobility that characterizes the propagation of the vibration from the source to the receiver. The unit of force density is force divided by square root of train length; represented here in decibels relative to  $1 \text{ lb}/(\text{ft})^{1/2}$ . The force density represents an incoherent line of vibration force equal to the length of transit trains. The process of estimating force density from train vibration and transfer mobility tests is discussed in Section 11-3. Figure 11-2 shows some trackbed force densities that have been developed from measurements of vibration from heavy and light rail transit vehicles. This figure provides a comparison of the vibration forces from vehicles with two different types of primary suspensions illustrating that vibration forces can be up to 10 to 15 dB higher in important frequency ranges for vehicles with stiff primary suspensions. Adjustments must be made to the force density to account for differences between the facility where the force density was measured and the new system. Reference 6 discusses a number of potential adjustments.

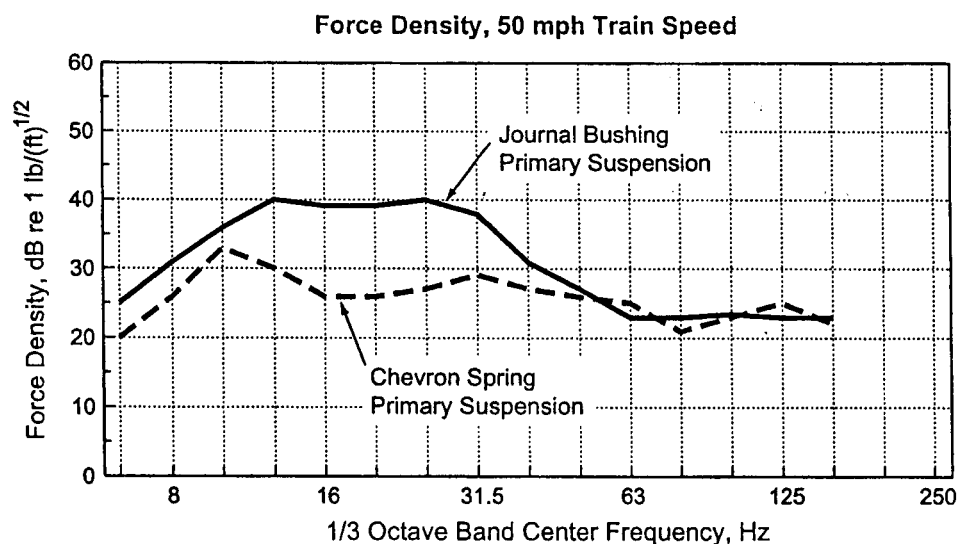


Figure 11-2 Force Densities for Rail Transit Vehicles

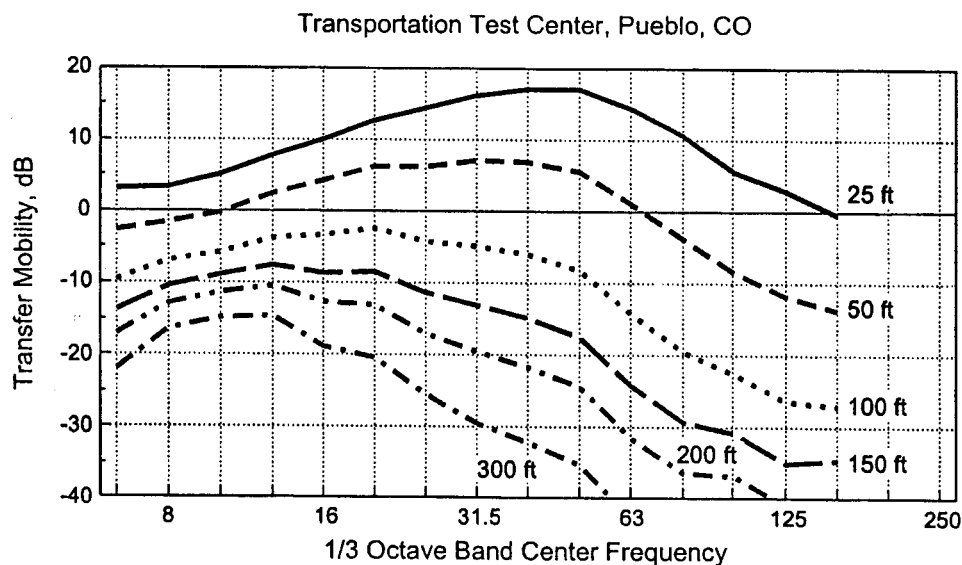


Figure 11-3 Average Point-Source Transfer Mobility

The key elements of the vibration prediction procedure are implementation of field tests to measure the transfer mobility and the subsequent use of transfer mobility to characterize vibration propagation. The process of measuring transfer mobility involves impacting the ground and measuring the resulting vibration pulse at various distances from the impact. Standard signal processing techniques are used to determine the transfer function, or frequency response function, between the exciting force and the resultant ground-surface vibration. Numerical regression methods are used to combine a number of two point transfer functions into a smooth point source transfer mobility that represents the average vibration propagation characteristics of a site as a function of both distance from the source and frequency. The transfer mobility is usually expressed in terms of a group of 1/3 octave band transfer mobilities. Because typical spectrum analyzers are not capable of obtaining 1/3 octave band transfer functions, this processing is performed after transferring the data to a computer. Figure 11-3 shows the point source transfer mobilities from a series of tests at the Transportation Test Center in Pueblo, Colorado.<sup>(7)(8)(9)(10)(11)</sup>

Once the point source transfer mobility has been defined, the line source transfer mobility can be calculated using numerical integration techniques. This process has been described in a Transportation Research Board paper<sup>(4)</sup> and a U.S. DOT report.<sup>(12)</sup> Figure 11-4 shows the line source transfer mobilities that were derived from the point source transfer mobilities shown in Figure 11-3. The line source transfer mobilities are used to normalize measured vibration velocity levels from train passbys and to obtain force density.

The propagation of vibration from the building foundation to the receiver room is a very complex problem dependent on the specific design of the building. Detailed evaluation of the vibration propagation would require extensive use of numerical procedures such as the finite element method. Such a detailed evaluation is generally not practical for individual buildings considered in this manual. The propagation of vibration through a building and the radiation of sound by vibrating building surfaces is consequently estimated using

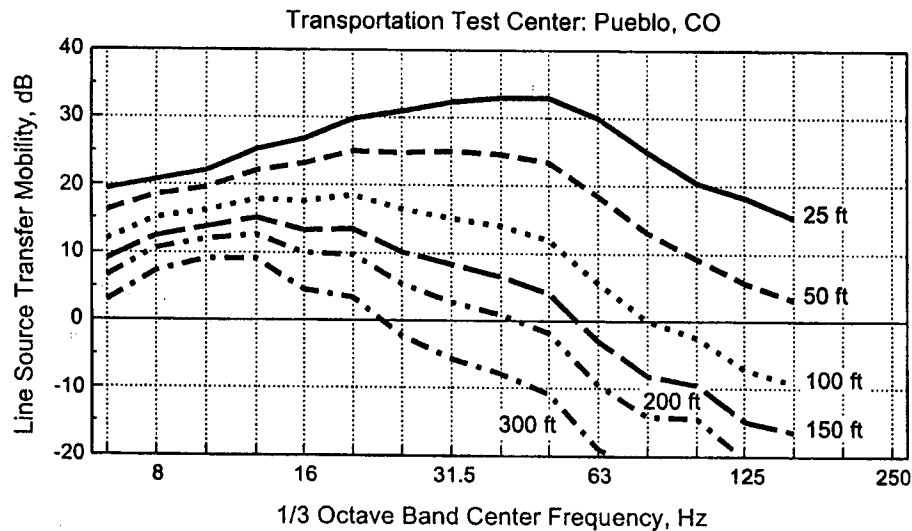


Figure 11-4 Average Line-Source Transfer Mobility

simple empirical or theoretical models. The recommended procedures are outlined in the *Handbook of Urban Rail Noise and Vibration Control*.<sup>(13)</sup> The approach consists of adding the following adjustments to the 1/3 octave band spectrum of the projected ground-surface vibration:

1. **Building response or coupling loss.** This represents the change in the incident ground-surface vibration due to the presence of the building foundation. The adjustments in the *Handbook*, which were originally developed by Wilson,<sup>(14)</sup> are shown in Figure 11-5. Note that the correction is zero when estimating basement floor vibration or vibration of at-grade slabs.
2. **Transmission through the building.** The vibration amplitude will decrease as the vibration energy propagates from the foundation through the remainder of the building. The normal assumption is that vibration attenuates by 1 to 2 dB for each floor.
3. **Floor resonances.** Vibration amplitudes will be amplified because of resonances of the floor/ceiling systems. For a typical wood frame residential structure, the fundamental resonance is usually in the 15 to 20 Hz range. Reinforced-concrete slab floors in modern buildings will have fundamental resonance frequencies in the 20 to 30 Hz range. An amplification resulting in a gain of approximately 6 dB should be used in the frequency range of the fundamental resonance.

The projected floor vibration is used to estimate the levels of ground-borne noise. The primary factors affecting noise level are the average vibration level of the room surfaces and the amount of acoustical absorption within the room. As discussed above, the radiation adjustment is zero for typical rooms, which gives:

$$L_A \approx L_v + K_{A-wt}$$

where  $L_A$  is the A-weighted sound level in a 1/3 octave band,  $L_v$  is the average vibration velocity level, and  $K_{A-wt}$  is the A-weighting adjustment at the center frequency of the 1/3 octave band. The A-weighted levels in the 1/3 third octave bands are then combined to give the overall A-weighted sound level.

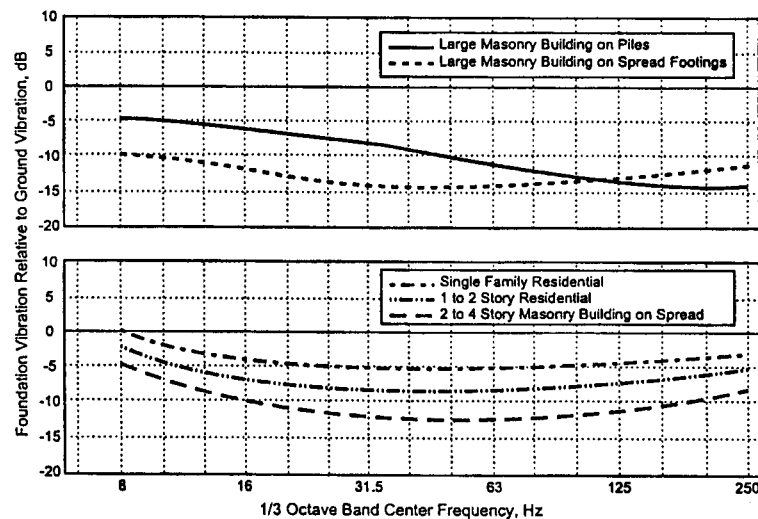


Figure 11-5 Foundation Response for Various Types of Buildings

### 11.3 MEASURING TRANSFER MOBILITY AND FORCE DENSITY

The test procedure to measure transfer mobility basically consists of dropping a heavy weight on the ground and measuring the force into the ground and the response at several distances from the impact. The goal of the test is to create vibration pulses that travel from the source to the ground surface using the same path that will be taken by the transit system vibration. The transfer mobility expresses the relationship between the input force and the ground-surface vibration.

Figure 11-6 illustrates the field procedure for at-grade and subway testing of transfer mobility. A weight is dropped from a distance of 3 to 4 feet onto a force transducer. The responses of the force and vibration transducers are recorded on a multichannel tape recorder for later analysis in the laboratory. An alternative approach is to set up the analysis equipment in the field and capture the signals directly. This complicates the field testing but eliminates the laboratory analysis of tape recorded data.

When the procedure is applied to subways, the force must be located at the approximate depth of the subway. This is done by drilling a bore hole and locating the force transducer at the bottom of the hole. The tests are usually performed at the same time that the bore holes are drilled. This allows using the soil-sampling equipment on the drill rig for the transfer mobility testing. The force transducer is attached to the bottom of the drill string and lowered to the bottom of the hole. A standard soil sampling hammer, which is usually

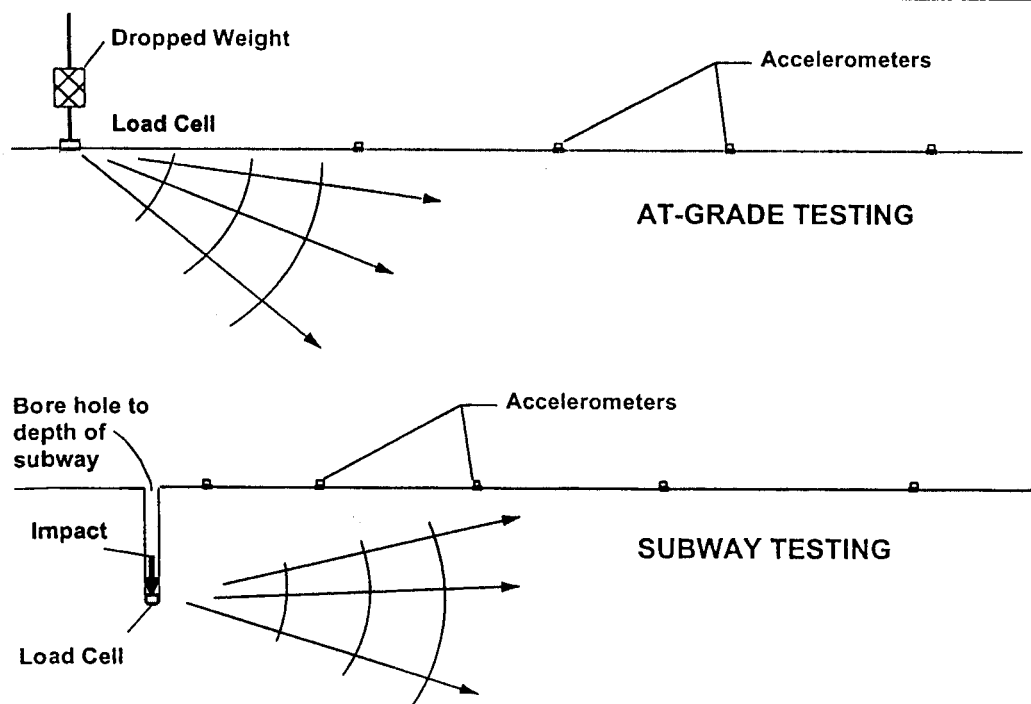


Figure 11-6 Test Configuration for Measuring Transfer Mobility

a 140 lb weight dropped 18 inches on to a collar attached to the drill string, is used to excite the ground. The force transducer must be capable of operating under water if the water table is near the surface or a slurry drilling process is used.

### 11.3.1 Instrumentation

Performing a transfer mobility test requires specialized equipment. Most of the equipment is readily available from several commercial sources. Commercially available load cells can be used as the force transducer. For borehole testing, the load cells must be hermetically sealed and capable of being used at the bottom of a 30 to 100 foot deep hole partially filled with water. A typical instrumentation array for the field testing and laboratory analysis of transfer mobility is shown in Figure 11-7. The force transducer should be capable of impact loads of 5,000 to 10,000 lb. Either accelerometers or geophones can be used as the vibration transducers. The requirement is that the transducers with the associated amplifiers be capable of accurately measuring levels of 0.0001 in./sec at 40 Hz and have a flat frequency response from 6 Hz to 400 Hz. The tape recorder also must have a flat response over the 6 to 400 Hz frequency range. Adequate low-frequency response usually requires either an instrumentation-quality FM recorder or a digital recorder. The response of most normal direct-record tape recorders is inadequate at frequencies below about 30 Hz.

The narrowband spectrum analyzer is the key element of the laboratory instrumentation. The analyzer must be capable of capturing impulses from at least two channels and calculating the frequency spectrum of the transfer function between the force and vibration channels. All transfer functions should include the average of at least 20 impulses. The averaging of the impulses will provide significant signal enhancement, which is

usually required to accurately characterize the transfer function. Signal enhancement is particularly important when the vibration transducer is more than 100 ft from the impact.

The laboratory array in Figure 11-7 shows the spectrum analyzer interfaced with a computer. The computer is usually required to adapt the narrowband transfer function data into a format suitable for evaluation of 1/3 octave band transfer mobility. The raw transfer function data usually include several hundred frequency bands. By transforming a narrowband spectrum into a 1/3 octave band spectrum, each spectrum is reduced to 15 to 20 bands. This step reduces the amount of data that must be evaluated to develop the generalized curves. There are specialized multi-channel spectrum analyzers which have built-in capabilities that are sufficient for this data analysis.

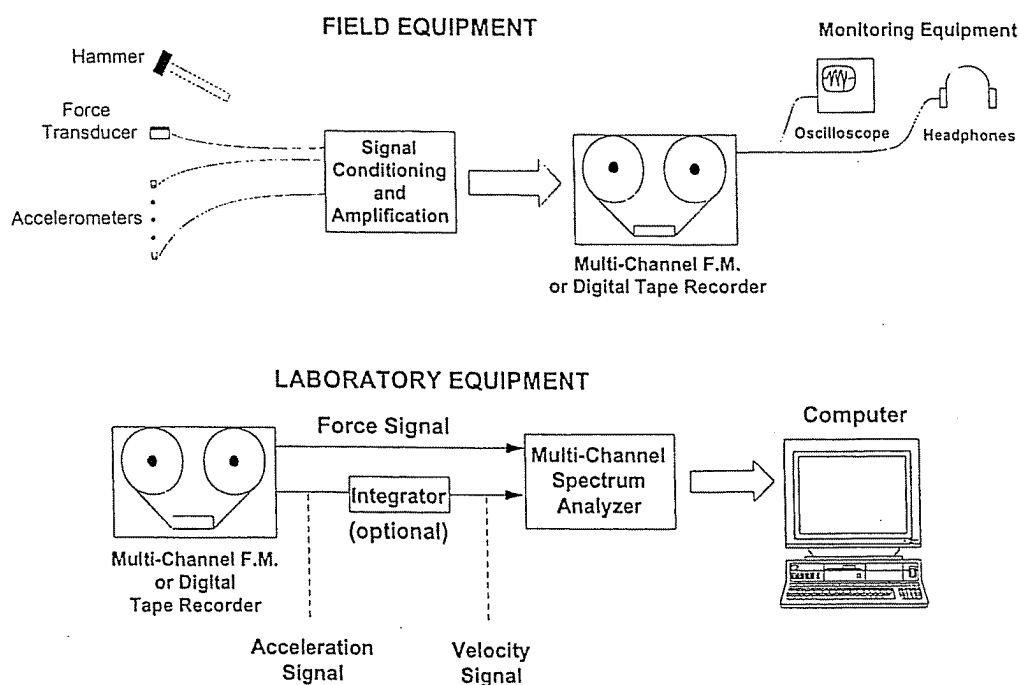


Figure 11-7 Equipment Required for Field Testing and Laboratory Analysis

### 11.3.2 Analysis of Transfer Mobility Data

Two different approaches have been used to develop estimates of line-source transfer mobility. The first consists of using lines of transducers and the second consists of a line of impact positions. The steps to develop line-source transfer mobility curves from tests using one or more lines of transducers are shown in Figure 11-8. The procedure starts with the narrowband transfer function between source and receiver at each measurement position. There should be a minimum of four distances in any test line. Because of the possibility of local variations in propagation characteristics, if at all possible, two or more lines should be used

to characterize a site. A total of 10 to 20 transducer positions are often used to characterize a site. Assuming that the spectrum analyzer calculates 400 line narrowband transfer functions for each position, this means a total of 4,000 to 8,000 numbers for each site.

The first step in the analysis procedure is to calculate the equivalent 1/3 octave band transfer functions. This reduces each spectrum from 400 to 15 numbers. As shown in Figure 11-8, the 1/3 octave band spectrum is much smoother than the narrow-band spectrum. The next step is to calculate a best-fit curve of transfer mobility as a function of distance for each 1/3 octave band.

When analyzing a specific site, the best-fit curve will be based on 10 to 20 points. Up to several hundred points could be used to determine average best-fit curves for a number of sites.

The 1/3 octave band best-fit curves can be directly applied to point vibration sources. Buses can usually be considered to be point sources. However, for a line vibration source such as a train, numerical integration must be used to calculate an equivalent line source transfer mobility. The numerical integration procedures are detailed in Reference 4.

The second procedure for estimating line-source transfer mobility, shown schematically in Figure 11-9, is best for detailed assessment of specific vibration paths or specific buildings. The vibration transducers are located at specific points of interest and a line of impacts is used. For example, a 200 foot train might be represented by a line of 21 impact positions along the track centerline at 10 foot intervals. It is possible to sum the point source results using Simpson's rule for numerical integration to directly calculate line-source transfer mobility. This is a considerably more direct approach than is possible with lines of vibration transducers.

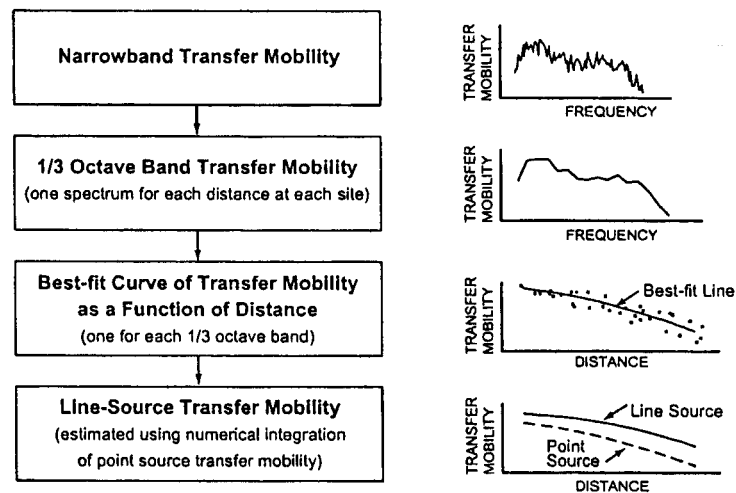


Figure 11-8 Analysis of Transfer Mobility

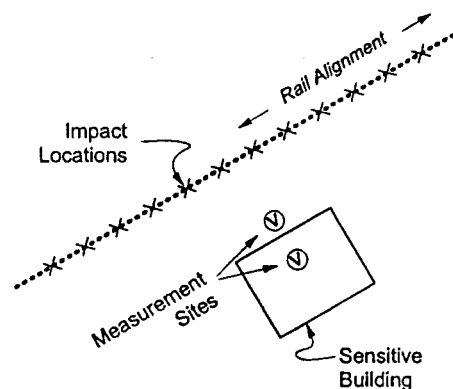


Figure 11-9 Schematic of Transfer Mobility Measurements Using a Line of Impacts

### 11.3.3 Deriving Force Density

Force Density is not a quantity that can be measured directly, it must be inferred from measurements of transfer mobility and train vibration at the same site. For deriving force density, deriving line-source transfer mobility from a line of impacts gives the best results. The force density for each 1/3 octave band is then simply:

$$L_F = L_v - TM_{line}$$

where  $L_F$  is the force density,  $L_v$  is measured train ground-borne vibration and  $TM_{line}$  is the line source transfer mobility. The standard approach is to use the average force density from measurements at three or more positions.

## 11.4 ASSESSMENT OF VIBRATION IMPACT

The goals of the vibration assessment are to inventory all sensitive land uses that may be adversely impacted by the ground-borne vibration and noise from the proposed project and to determine the mitigation measures that will be required to eliminate or minimize the impact. This requires projecting the levels of ground-borne vibration and noise, comparing the projections with the criteria, and developing a list of suitable mitigation measures. Note that the General Assessment is incorporated as an intermediate step in the impact assessment because of its relative simplicity and potential to narrow the areas where Detailed Analysis needs to be done.

The assessment of vibration impact should proceed according to the following steps:

1. Screen the entire proposed transit alignment to identify areas where there is the potential of impact from ground-borne vibration. The vibration screening method is described in Chapter 9. If no sensitive land uses are within the screening distances, it is not necessary to perform any further assessment of ground-borne vibration.
2. Define the curves of ground-surface vibration level as a function of distance that can be used with the General Assessment. Usually this will mean selecting the appropriate curve from Chapter 10 for the proposed transit mode. For less common transit modes, it may be necessary to make measurements at an existing facility.
3. Use the General Assessment Procedure to estimate vibration levels for specific buildings or groups of buildings. The projected levels are compared with the impact criteria given in Chapter 8 to determine whether vibration impact is likely. The goal of this step is to develop a reasonably accurate catalog of the buildings that will experience ground-borne vibration or noise levels that exceed the criteria. It is generally best to make a conservative assessment of the impact. That is, it is better to include some buildings that may not be impacted than to exclude some buildings that are likely to be impacted. In locations where General Assessment indicates impact, the more refined techniques of Detailed Analysis would be employed.
4. In some cases it will be necessary to perform a vibration survey to characterize existing ambient vibration. As discussed in Section 11.1, although knowledge of the existing ambient vibration is not



generally required to evaluate vibration impact, there are times when a survey of existing conditions is valuable. One common example is when the rail project will be located in an existing rail right-of-way shared by freight trains. Chapter 8 includes some guidelines on how to account for existing vibration that is higher than the impact limit for the project vibration.

5. For the areas where the impact criteria may be exceeded, review potential mitigation measures and assemble a list of feasible approaches to vibration control. To be feasible, the measure, or combination of measures, must be capable of providing a significant reduction of the vibration levels, at least 5 dB, while being reasonable from the standpoint of the added cost. Because vibration control is frequency-dependent, specific recommendations of vibration control measures can be made only after evaluating the frequency characteristics of the vibration.
6. Use the Detailed Vibration Analysis to develop detailed vibration mitigation measures. It is usually necessary to project vibration spectra at buildings which will be affected at levels higher than the impact thresholds. This type of assessment is normally performed as part of the final design rather than during the environmental impact assessment stage. Because a Detailed Analysis is more accurate than a General Assessment, there will be times that the Detailed Analysis will show that the vibration and noise levels will be below the applicable criteria and that mitigation is not required. If the projected levels are still above the limits, the spectra provided by the Detailed Analysis will be needed to evaluate vibration control approaches.

## 11.5 VIBRATION MITIGATION

The purpose of vibration mitigation is to minimize the adverse effects that the project ground-borne vibration will have on sensitive land uses. Because ground-borne vibration is not as common a problem as environmental noise, the mitigation approaches have not been as well defined. In some cases it has been necessary to develop innovative approaches to control the impact. Examples are the floating slab systems that were developed for the Washington, D.C. and Toronto transit systems and wheel-flat detectors that have been used to identify vehicles in need of maintenance.

The discussion in this section focuses on rail systems, the source of most problems with ground-borne vibration. When buses do cause annoying ground-borne vibration, it is usually clear that the source of the problem is roadway roughness or unevenness caused by bumps, pot holes, expansion joints, or driveway transitions. Smoothing the roadway surface will usually solve the problem.

The importance of adequate wheel and rail maintenance in controlling levels of ground-borne vibration cannot be overemphasized. Problems with rough wheels or rails can increase vibration levels by 20 dB, negating the effects of even the most effective vibration control measures. It is rare that practical vibration control measures will provide more than 15 to 20 dB attenuation. When there are ground-borne vibration problems with existing transit equipment, the best vibration control measure often is to implement new or improved maintenance procedures. Grinding rough or corrugated rail and wheel truing to eliminate wheel flats and

restore the wheel contour may provide more vibration reduction than would be obtainable from completely replacing the existing track system with floating slabs.

Given that the track and vehicles are in good condition, the options for further reductions in the vibration levels fit into one of seven categories: (1) maintenance procedures, (2) location and design of special trackwork, (3) vehicle modifications, (4) changes in the track support system, (5) building modifications, (6) adjustments to the vibration transmission path, and (7) operational changes.

**Maintenance** – As discussed above, effective maintenance programs are essential for controlling ground-borne vibration. When the wheel and rail surfaces are allowed to degrade the vibration levels can increase by as much as 20 dB compared to a new or well maintained system. Some maintenance procedures that are particularly effective at avoiding increases in ground-borne vibration are:

- Rail grinding on a regular basis. Rail grinding is particularly important for rail that develops corrugations.
- Wheel truing to re-contour the wheel, provide a smooth running surface and remove wheel flats. The most dramatic vibration reduction results from removing wheel flats. However, significant improvements also can be observed simply from smoothing the running surface.
- Implement vehicle reconditioning programs, particularly when components such as suspension system, brakes, wheels, and slip-slide detectors will be involved.
- Install wheel-flat detector systems to identify vehicles which are most in need of wheel truing.

**Planning and Design of Special Trackwork** – A large percentage of vibration impact from a new transit facility is often caused by wheel impacts at the special trackwork for turnouts and crossovers. When feasible, the most effective vibration control measure is to relocate the special trackwork to a less vibration-sensitive area. Sometimes this requires adjusting the location by several hundred feet and will not have a significant adverse impact on the operation plan for the system. Careful review of crossover and turnout locations during the preliminary engineering stage is an important step to minimizing potential for vibration impact. Another approach is to use special devices at turnouts and crossovers, special "frogs," that incorporate mechanisms to close the gaps between running rails. Frogs with spring loaded mechanisms and frogs with movable points can significantly reduce vibration levels near crossovers.

**Vehicle Specifications** – The ideal rail vehicle, with respect to minimizing ground-borne vibration, should have a low unsprung weight, a soft primary suspension, a minimum of metal-to-metal contact between moving parts of the truck, and smooth wheels that are perfectly round. A limit for the vertical resonance frequency of the primary suspension should be included in the specifications for any new vehicle. A vertical resonance frequency of 12 Hz or less is sufficient to control the levels of ground-borne vibration. Some have recommended that transit vehicle specifications require that the vertical resonance frequency be less than 8 Hz.<sup>(15)</sup>

**Special Track Support Systems** – When the vibration assessment indicates that vibration levels will be excessive, it is usually the track support system that is changed to reduce the vibration levels. Floating

slabs, resiliently supported ties, high resilience fasteners, and ballast mats have all been used in subways to reduce the levels of ground-borne vibration. To be effective, all of these measures must be optimized for the frequency spectrum of the vibration. Most of these relatively standard procedures have been successfully used on several subway projects. Applications on at-grade and elevated track are less common. This is because vibration problems are less common for at-grade and elevated track; cost of the vibration control measures is a higher percentage of the construction costs of at-grade and elevated track; and exposure to the elements can require significant design modifications.

Each of the major vibration control measures for track support is discussed below:

- **Resilient Fasteners:** Resilient fasteners are used to fasten the rail to concrete track slabs. Standard resilient fasteners are very stiff in the vertical direction, usually in the range of 200,000 lb/in., although they do provide vibration reduction compared to some of the rigid fastening systems used on older systems (e.g., wood half ties embedded in concrete). Special fasteners with vertical stiffness in the range of 30,000 lb/in. will reduce vibration by as much as 5 to 10 dB at frequencies above 30 to 40 Hz.
- **Ballast Mats:** A ballast mat consists of a rubber or other type of elastomer pad that is placed under the ballast. The mat generally must be placed on a concrete pad to be effective. They will not be as effective if placed directly on the soil or the sub-ballast. Consequently, most ballast mat applications are in subway or elevated structures. Ballast mats can provide 10 to 15 dB attenuation at frequencies above 25 to 30 Hz. Ballast mats are often a good retro-fit measure for existing tie-and-ballast track where there are vibration problems.
- **Resiliently Supported Ties:** The resiliently supported tie system consists of concrete ties supported by rubber pads. The rails are fastened directly to the concrete ties using standard rail clips. Existing measurement data indicate that resiliently supported ties may be very effective in reducing low-frequency vibration in the 15 to 40 Hz range. This makes them particularly appropriate for transit systems with vibration problems in the 20 to 30 Hz range.
- **Floating Slabs:** Floating slabs can be very effective at controlling ground-borne vibration and noise. They basically consist of a concrete slab supported on resilient elements, usually rubber or a similar elastomer. A variant that was first used in Toronto and is generally referred to as the double tie system, consists of 5-foot-long slabs with 4 or more rubber pads under each slab. Floating slabs are effective at frequencies greater than their single-degree-of-freedom vertical resonance frequency. The floating slabs used in Washington DC, Atlanta, and Boston were all designed to have a vertical resonance in the 14 to 17 Hz range. A special London Transport floating slab that is under the Barbican Redevelopment uses a very heavy design with a resonance frequency in the 5 to 10 Hz frequency range.<sup>(16)</sup> The primary disadvantage of floating slabs is that they tend to be the most expensive of the vibration control treatments.
- **Other Marginal Treatments:** Changing any feature of the track support system can change the levels of ground-borne vibration. Approaches such as using heavier rail, thicker ballast, or heavier ties can be expected to reduce the vibration levels. There also is some indication that vibration levels are lower with wood ties compared to concrete ties. However, there is little

confirmation that any of these approaches will make a significant change in the vibration levels. This is unfortunate since modifications to the ballast, rails, or ties are virtually the only options for normal at-grade, tie-and-ballast track without resorting to a different type of track support system or widening the right-of-way to provide a buffer zone.

**Building Modifications** – In some circumstances, it is practical to modify the impacted building to reduce the vibration levels. Vibration isolation of buildings basically consists of supporting the building foundation on elastomer pads similar to bridge bearing pads. Vibration isolation of buildings is seldom an option for existing buildings; normal applications are possible only for new construction. This approach is particularly important for shared-use facilities such as office space above a transit station or terminal. When vibration-sensitive equipment such as electron microscopes will be affected by transit vibration, specific modifications to the building structure may be the most cost-effective method of controlling the impact. For example, the floor upon which the vibration-sensitive equipment is located could be stiffened and isolated from the remainder of the building to reduce the vibration.

**Trenches** – Use of trenches to control ground-borne vibration is analogous to controlling airborne noise with sound barriers. Although this approach has not received much attention in the U.S., there are cases where a trench can be a practical method for controlling transit vibration from at-grade track. A rule-of-thumb given by Richert and Hall<sup>(17)</sup> is that if the trench is located close to the source, the trench bottom must be at least 0.6 times the Rayleigh wavelength below the vibration source. For most soils, Rayleigh waves travel at around 600 ft/sec which means that the wavelength at 30 Hz is 20 ft. This means that the trench must be approximately 15 ft deep to be effective at 30 Hz.

A trench can be effective as a vibration barrier if it is either open or solid. The Toronto Transit Commission did a test with a trench filled with styrofoam to keep it open. They reported successful performance over a period of at least one year.<sup>(18)</sup> Solid barriers can be constructed with sheet piling or concrete poured into a trench.

**Operational Changes** – The most obvious operational change is to reduce the vehicle speed. Reducing the train speed by a factor of two will reduce vibration levels approximately 6 dB. Other operational changes that can be effective in special cases are:

- Use the equipment that generates the lowest vibration levels during the nighttime hours when people are most sensitive to vibration and noise.
- Adjust nighttime schedules to minimize movements in the most sensitive hours.

While there are tangible benefits from speed reductions and limits in operations during the most sensitive time periods, these types of measures may not be practical from the standpoint of service requirements. Furthermore, vibration reduction achieved through operating restrictions requires continuous monitoring and will be negated if vehicle operators do not adhere to established policies.

**Buffer Zones** – Expanding the rail right-of-way sometimes will be the most economical method of controlling the vibration impact. A similar approach is to negotiate a vibration easement from the affected property owners.

## REFERENCES

1. J.T. Nelson, H.J. Saurenman, G.P. Wilson, "Metrorail Operational Sound Level Measurements: Ground-Borne Vibration and Noise Levels," prepared by Wilson Ihrig & Associates for Washington Metropolitan Area Transit Authority, December 1979.
2. T.G. Gutowski, L.E. Wittig, C.L. Dym, "Some Aspects of the Ground Vibration Problem," *Noise Control Engineering*, vol. 10:3, pp 94-101, 1978.
3. H. Nolle, "High Frequency Ground Vibration Measurements," *Shock and Vibration Bulletin*, vol. 48:4, pp 95-103, 1978.
4. J.T. Nelson, H.J. Saurenman, "A Prediction Procedure for Rail Transportation Ground-Borne Noise and Vibration," Transportation Research Record 1143, August 1988.
5. "Finite Element Analysis of Urban Rail Transit System Ground Vibration: A Feasibility Study," prepared by Structural Software Development, Inc., Berkeley, California under contract to the US DOT/Transportation Systems Center, Contract DOT-TSC-1796, June 1982.
6. J.T. Nelson, H.J. Saurenman, "State-of-the-Art Review: Prediction and Control of Ground-Borne Noise and Vibration from Rail Transit Trains," Report Number UMTA-MA-06-0049-83-4, December 1983.
7. H.J. Saurenman, J.T. Nelson, "Ground-Borne Vibration Tests with MARTA C-Car," report prepared for Metropolitan Atlanta Rapid Transit Authority, November 16, 1981.
8. H.J. Saurenman, "Preliminary Results of Ground-Borne Vibration Tests with BRRT/Miami Vehicle," technical memorandum prepared for US DOT/Transportation Systems Center, contract DOT-TSC-1796, February 8, 1983.
9. H.J. Saurenman, "Ground-borne Vibration Tests with NFTA Prototype Vehicle at the Transportation Test Center," technical memorandum prepared for the Transportation Test Center, project P-83-C-01078, August 3, 1983.
10. H.J. Saurenman, "Noise and Vibration Tests with Portland Tri-Met Prototype Vehicle at the Transportation Test Center," technical memorandum prepared for the Transportation Test Center, project P-83-C-02649, March 26, 1984.
11. J.T. Nelson, "Noise and Vibration Tests with Atlanta MARTA-Hitachi Vehicle at the Transportation Test Center," technical memorandum prepared for the Transportation Test Center, RFP-AAR-83-TO-015, February 12, 1985.
12. H.J. Saurenman, "Impact Testing to Measure Attenuation of Ground-Borne Vibration with Distance from At-Grade Ballast-and-Tie Track," technical memorandum prepared under US DOT/TSC contract DOT-TSC-1796, March 4, 1983.

13. H.J. Saurenman, J.T. Nelson, G.P. Wilson, *Handbook of Urban Rail Noise and Vibration Control*, prepared under contract to US DOT/Transportation Systems Center, Report UMTA-MA-06-0099-82-2, February 1982.
14. G.P. Wilson, "Ground-Borne Vibration Levels from Rock and Earth Based Subways," Technical Report prepared by Wilson, Ihrig & Associates for the Washington Metropolitan Area Transit Authority Metro System, September 1971.
15. A. Paolillo, "Suitability of Existing Vibration Criteria for Rapid Transit Systems," Conference paper presented at annual meeting of Acoustical Society of America, Atlanta, GA, 1980.
16. P. Grootenhuis, "Floating Track Slab Isolation for Railways," *Journal of Sound and Vibration*, 51:3, pp 443-448, 1977.
17. F. E. Richert and J. R. Hall, *Vibrations of Soils and Foundations*, Prentice-Hall, Inc., Englewood Cliffs, NJ, 1970.
18. S. T. Lawrence, "TTC-LRT Trackbed Studies, Ground-borne Vibration Testing, Measurement and Evaluation Program," conference paper presented at APTA Rapid Transit Conference, San Francisco, CA, 1980.

## 12. NOISE AND VIBRATION DURING CONSTRUCTION

Construction often generates community noise/vibration complaints despite the limited time frame over which it takes place. Complaints typically arise from interference with people's activities, especially when the community has no clear understanding of the extent or duration of the construction. Misunderstandings can arise when the contractor is considered to be insensitive by the community even though he believes he is in compliance with local ordinances. This situation underscores the need for early identification and assessment of potential problem areas. An assessment of the potential for complaints can be made by following procedures outlined in this chapter. That assessment can aid contractors in making bids by allowing changes in construction approach and including mitigation costs before the construction plans are finalized. Publication of an assessment including a description of the construction noise and vibration environment can lead to greater understanding and tolerance in the community.

Control of construction noise and vibration occurs in three steps:

1. **Assessment and Reporting:** The environmental impact assessment identifies the potential problem areas during the construction phase of a project and serves to inform the public of the project's construction effects. This is important for new major infrastructure projects where heavy construction can take place over a lengthy period of time.
2. **Construction specifications:** Most large construction projects incorporate noise specifications on construction equipment, but sometimes additional measures are needed to minimize community complaints. Special mitigation measures can be written into the construction documents where necessary as identified by the impact assessment. The documents should include realistic specifications which lessen community annoyance without forcing unreasonable constraints on the contractors.
3. **Compliance verification:** Field inspectors need to be given clear direction on conducting and reporting measurements for compliance with noise specifications in noise-sensitive areas.

## 12.1 CONSTRUCTION NOISE

The noise levels created by construction equipment will vary greatly depending on factors such as the type of equipment, the specific model, the operation being performed, and the condition of the equipment. The equivalent sound level ( $L_{eq}$ ) of the construction activity also depends on the fraction of time that the equipment is operated over the time period of construction. This section provides information on typical levels generated by various construction equipment and provides guidance on assessment of noise from the construction activities related to transit facilities. It should be noted that the level of noise analysis should be commensurate with the type and scale of the project, and the presence of noise-sensitive land uses in the construction zone.

### 12.1.1 Noise from Typical Construction Equipment and Operations

The dominant source of noise from most construction equipment is the engine, usually a diesel, without sufficient muffling. In a few cases, such as impact pile driving or pavement breaking, noise generated by the process dominates. For considerations of noise assessment, construction equipment can be considered to operate in two modes, stationary and mobile. Stationary equipment operates in one location for one or more days at a time, with either a fixed power operation (pumps, generators, compressors) or a variable noise operation (pile drivers, pavement breakers). Mobile equipment moves around the construction site with power applied in cyclic fashion (bulldozers, loaders), or to and from the site (trucks). The movement around the site is handled in the construction noise prediction procedure discussed later in this chapter. Variation in power imposes additional complexity in characterizing the noise source level from a piece of equipment. This is handled by describing the noise at a reference distance from the equipment operating at full power and adjusting it based on the duty cycle of the activity to determine the  $L_{eq}$  of the operation. Standardized procedures for measuring the exterior noise levels for the certification of mobile and stationary construction equipment have been developed by the Society of Automotive Engineers.<sup>(1)(2)</sup> Typical noise levels from representative pieces of equipment are listed in Table 12-1.

Construction activities are characterized by variations in the power expended by equipment, with resulting variation in noise levels with time. Variation in the power is expressed in terms of the "usage factor" of the equipment, the percentage of time during the workday that the equipment is operating at full power. Time-varying noise levels are converted to a single number ( $L_{eq}$ ) for each piece of equipment during the operation. Besides having daily variations in activities, major construction projects are accomplished in several different phases. Each phase has a specific equipment mix depending on the work to be accomplished during that phase.

Each phase has its own noise characteristics; some have higher continuous noise levels than others, some have high impact noise levels. The purpose of the assessment is to determine not only the levels, but also the duration of the noise. The  $L_{eq}$  of each phase is determined by combining the  $L_{eq}$  contributions from each piece of equipment used in that phase. The impact and the consequent noise mitigation approaches depend on the criteria to be used in assessing impact, as discussed in the next section.



Table 12-1 Construction Equipment Noise Emission Levels	
Equipment	Typical Noise Level (dBA) 50 ft from Source
Air Compressor	81
Backhoe	80
Ballast Equalizer	82
Ballast Tamper	83
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Concrete Vibrator	76
Crane, Derrick	88
Crane, Mobile	83
Dozer	85
Generator	81
Grader	85
Impact Wrench	85
Jack Hammer	88
Loader	85
Paver	89
Pile Driver (Impact)	101
----- (Sonic)	96
Pneumatic Tool	85
Pump	76
Rail Saw	90
Rock Drill	98
Roller	74
Saw	76
Scarifier	83
Scraper	89
Shovel	82
Spike Driver	77
Tie Cutter	84
Tie Handler	80
Tie Insertter	85
Truck	88

Table based on an EPA Report,<sup>(3)</sup> measured data from railroad construction equipment taken during the Northeast Corridor Improvement Project<sup>(4)</sup> and other measured data.<sup>(5)(6)</sup>

### 12.1.2 Construction Noise Assessment

The level of detail of a construction noise assessment depends on the scale and the type of project and the stage of environmental review. Where the project is major – the construction duration is expected to last for more than several months, noisy equipment will be involved, or the construction is expected to take place near a noise-sensitive site – then construction noise impacts may be determined in considerable detail, as described in this section. Otherwise, the assessment may simply be a description of the equipment to be used, the duration of construction, and any mitigation requirements placed on particularly noisy operations.

A construction noise assessment for a major project is performed by comparing the predicted noise levels with criteria established for the type of project. The approach requires an appropriate descriptor, a standardized prediction method and a set of recognized criteria for assessing the impact.

The *descriptor* used for construction noise is the  $L_{eq}$ . This unit is appropriate for the following reasons:

- It can be used to describe the noise level from operation of each piece of equipment separately and is easy to combine to represent the noise level from all equipment operating during a given period.
- It can be used to describe the noise level during an entire phase.
- It can be used to describe the average noise over all phases of the construction.

The recommended *method* for predicting construction noise impact for major urban transit projects is similar to that suggested by the Federal Highway Administration (FHWA).<sup>(7)</sup> The FHWA prediction method is used to estimate the construction noise levels associated with the construction of a highway, but it can be used for any transportation project. The method requires:

1. An emission model to determine the noise generated by the equipment at a reference distance.
2. A propagation model that shows how the noise level will vary with distance.
3. A way of summing the noise of each piece of equipment at locations of noise-sensitivity.

The first two components of the model are related by the following equation:

$$L_{eq}(equip) = E.L. + 10 \log(U.F.) - 20 \log\left(\frac{D}{50}\right) - 10 G \log\left(\frac{D}{50}\right)$$

where:  $L_{eq}(equip)$  is the  $L_{eq}$  at a receiver resulting from the operation of a single piece of equipment over a specified time period

$E.L.$  is the noise emission level of the particular piece of equipment at the reference distance of 50 feet, taken from Table 12-1

$G$  is a constant that accounts for topography and ground effects, taken from Figure 6-5 (Chapter 6)

$D$  is the distance from the receiver to the piece of equipment, and

$U.F.$  is a usage factor that accounts for the fraction of time that the equipment is in use over the specified time period.

The combination of noise from several pieces of equipment operating during the same time period is obtained from decibel addition of the  $L_{eq}$  of each single piece of equipment found from the above equation.

### **Major Construction Projects**

The approach can be as detailed as necessary to characterize the construction noise by specifying the various quantities in the equation. For projects in an early assessment stage when the equipment roster and schedule are undefined, only a rough estimate of construction noise levels is practical.

The following assumptions are adequate for a general assessment of each phase of construction:

1. Full power operation for a time period of one hour is assumed because most construction equipment operates continuously for periods of one hour or more at some point in the construction period. Therefore,  $U.F. = 1$ , and  $10 \log(U.F.) = 0$ .
2. Free field conditions are assumed and ground effects are ignored. Consequently,  $G = 0$ .
3. Emission level at 50 feet,  $E.L.$ , is taken from Table 12-1.
4. All pieces of equipment are assumed to operate at the center of the project, or centerline, in the case of a guideway or highway construction project.
5. The predictions include only the two noisiest pieces of equipment expected to be used in each construction phase.

A more detailed approach can be used if warranted, such as when a known noise-sensitive site is adjacent to a construction project or where contractors are faced with stringent local ordinances or specifications as a result of public concern. Additional details include:

1. Accounting for the duration of the construction. Long-term construction project noise impact is based on a 30 day average  $L_{dn}$ , the times of day of construction activity (nighttime noise is penalized by 10 dB in residential areas), and the percentage of time the equipment is to be used during a period of time which will affect  $U.F.$  For example, an 8-hour  $L_{eq}$  is determined by making  $U.F.$  the percentage of time each individual piece of equipment operates under full power in that period. Similarly, the 30-day average  $L_{dn}$  is determined from the  $U.F.$  expressed by the percentage of time the equipment is used during the daytime hours (7 a.m. to 10 p.m.) and nighttime (10 p.m. to 7 a.m.), separately over a 30 day period. However, to account for increased sensitivity to nighttime noise, the nighttime percentage is multiplied by 10 before performing the computation.
2. Taking into account the site topography, natural and man-made barriers and ground effects. This will change the factor  $G$ . Use Figure 6-5 (Chapter 6) to calculate  $G$ .
3. Measuring or certifying the emission level of each piece of equipment. This will refine  $E.L.$
4. Determining the location of each piece of equipment while it is working. The distance factor  $D$  is therefore specified more exactly.

5. Including all pieces of equipment in the computation of the 8-hour  $L_{eq}$  and the 30-day average  $L_{dn}$ . The total noise levels are determined using Table 6-11 (Chapter 6).

### **Minor Construction Projects**

Most minor projects need no construction noise assessment at all. However, there may be cases involving a limited period of construction time – less than a month in a noise-sensitive area – where there may be a temporary effect where a qualitative treatment is appropriate. Community relations will be important in these cases; early information disseminated to the public about the kinds of equipment, expected noise levels and durations will help to forewarn potentially affected neighbors about the temporary inconvenience. In these cases, a general description of the variation of noise levels during a typical construction day may be helpful. The first method above will be sufficient to provide the estimated noise levels. The criteria suggested below are not applicable in these cases.

### **Criteria**

No standardized *criteria* have been developed for assessing construction noise impact. Consequently, criteria must be developed on a project-specific basis unless local ordinances can be found to apply. Generally, local noise ordinances are not very useful in evaluating construction noise. They usually relate to nuisance and hours of allowed activity and sometimes specify limits in terms of maximum levels, but are generally not practical for assessing the impact of a construction project. Project construction noise criteria should take into account the existing noise environment, the absolute noise levels during construction activities, the duration of the construction, and the adjacent land use. While it is not the purpose of this manual to specify standardized criteria for construction noise impact, the following guidelines can be considered reasonable criteria for assessment. If these criteria are exceeded, there may be adverse community reaction.

**General Assessment** – Estimate the combined noise level in one hour from the two noisiest pieces of equipment, assuming they both operate at the same time. Then identify locations where the level exceeds the following:

<u>Land Use</u>	<u>One-hour <math>L_{eq}</math> (dBA)</u>	
	<u>Day</u>	<u>Night</u>
Residential	90	80
Commercial	100	100
Industrial	100	100

**Detailed Assessment** – Predict the noise level in terms of 8-hour  $L_{eq}$  and 30-day averaged  $L_{dn}$  and compare to criteria in the following table:

<u>Land Use</u>	<u>8-hour <math>L_{eq}</math> (dBA)</u>		<u><math>L_{dn}</math> (dBA)</u>
	<u>Day</u>	<u>Night</u>	<u>30-day Average</u>
Residential	80	70	75 <sup>(a)</sup>
Commercial	85	85	80 <sup>(b)</sup>
Industrial	90	90	85 <sup>(b)</sup>

<sup>(a)</sup> In urban areas with very high ambient noise levels ( $L_{dn} > 65$  dB),  $L_{dn}$  from construction operations should not exceed existing ambient + 10 dB.

<sup>(b)</sup> Twenty-four hour  $L_{eq}$ , not  $L_{dn}$ .

### 12.1.3 Mitigation of Construction Noise

After using the above approach to locate potential impacts from construction noise, the next step is to identify appropriate control measures. Three categories of noise control approaches, with examples, are given below:

#### 1. *Design considerations and project layout:*

- Construct noise barriers, such as temporary walls or piles of excavated material, between noisy activities and noise-sensitive receivers.
- Re-route truck traffic away from residential streets, if possible. Select streets with fewest homes, if no alternatives are available.
- Site equipment on the construction lot as far away from noise-sensitive sites as possible.
- Construct walled enclosures around especially noisy activities, or clusters of noisy equipment. For example, shields can be used around pavement breakers, loaded vinyl curtains can be draped under elevated structures.

#### 2. *Sequence of operations:*

- Combine noisy operations to occur in the same time period. The total noise level produced will not be significantly greater than the level produced if the operations were performed separately.
- Avoid nighttime activities. Sensitivity to noise increases during the nighttime hours in residential neighborhoods.

#### 3. *Alternative construction methods:*

- Avoid impact pile driving where possible in noise-sensitive areas. Drilled piles or the use of a sonic or vibratory pile driver are quieter alternatives where the geological conditions permit their use.

- Use specially quieted equipment, such as quieted and enclosed air compressors, mufflers on all engines.
- Select quieter demolition methods, where possible. For example, sawing bridge decks into sections that can be loaded onto trucks results in lower cumulative noise levels than impact demolition by pavement breakers.

The environmental assessment should include description of how each impacted location will be treated with one or more mitigation approaches.

## **12.2 CONSTRUCTION VIBRATION**

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods employed. Operation of construction equipment causes ground vibrations which spread through the ground and diminish in strength with distance. Buildings founded on the soil in the vicinity of the construction site respond to these vibrations, with varying results ranging from no perceptible effects at the lowest levels, low rumbling sounds and feelable vibrations at moderate levels and slight damage at the highest levels. Ground vibrations from construction activities very rarely reach the levels that can damage structures, but can achieve the audible and feelable ranges in buildings very close to the site. A possible exception is the case of old, fragile buildings of historical significance where special care must be taken to avoid damage. The construction vibration criteria include special consideration for fragile historical buildings. The construction activities that typically generate the most severe vibrations are blasting and impact pile driving.

Vibration levels for construction equipment have been published based on measured data near various types of equipment (see Table 12-2). Since the primary concern with regard to construction vibration is building damage, construction vibration is generally assessed in terms of peak particle velocity (PPV), as defined in Chapter 7.1.2. Peak particle velocity is typically a factor of 1.7 to 6 times greater than root mean square (rms) vibration velocity; a factor of 4 has been used to calculate the approximate rms vibration velocity levels indicated in Table 12-2.

### **12.2.1 Vibration Source Levels from Construction Equipment**

Various types of construction equipment have been measured under a wide variety of construction activities with an average of source levels reported in terms of velocity levels as shown in Table 12-2. Although the table gives one level for each piece of equipment, it should be noted that there is a considerable variation in reported ground vibration levels from construction activities. The data provide a reasonable estimate for a wide range of soil conditions.

Table 12-2 Vibration Source Levels for Construction Equipment (From measured data. <sup>(8)(9)(10)(11)</sup> )			
Equipment		PPV at 25 ft (in/sec)	Approximate L <sub>v</sub> <sup>†</sup> at 25 ft
Pile Driver (impact)	upper range	1.518	112
	typical	0.644	104
Pile Driver (sonic)	upper range	0.734	105
	typical	0.170	93
Clam shovel drop (slurry wall)		0.202	94
Hydromill (slurry wall)	in soil	0.008	66
	in rock	0.017	75
Large bulldozer		0.089	87
Caisson drilling		0.089	87
Loaded trucks		0.076	86
Jackhammer		0.035	79
Small bulldozer		0.003	58
† RMS velocity in decibels (VdB) re 1 μinch/second			

### 12.2.2 Construction Vibration Assessment

Construction vibration should be assessed in cases where there is a significant potential for impact from construction activities. Such activities include blasting, pile driving, demolition and drilling or excavation in close proximity to sensitive structures. The recommended procedure for estimating vibration impact from construction activities is as follows:

- Select the equipment and associated vibration source levels at a reference distance of 25 feet from Table 12-2.
- Make the propagation adjustment according to the following formula (this formula is based on point sources with normal propagation conditions):

$$PPV_{equip} = PPV_{ref} \times \left( \frac{25}{D} \right)^{1.5}$$

where: PPV (equip) is the peak particle velocity in in/sec of the equipment adjusted for distance  
 PPV (ref) is the reference vibration level in in/sec at 25 feet from Table 12-2  
 D is the distance from the equipment to the receiver.

- Apply the vibration damage threshold criterion of 0.20 in/sec (approximately 100 VdB) for fragile buildings, or 0.12 in/sec (approximately 95 VdB) for extremely fragile historic buildings.<sup>(12)</sup>

- If desired for considerations of annoyance or interference with vibration-sensitive activities, estimate the vibration level  $L_v$  at any distance  $D$  from the following equation and apply the vibration impact criteria in Chapter 8 for vibration-sensitive sites:

$$L_v(D) = L_v(25 \text{ ft}) - 20 \log\left(\frac{D}{25}\right)$$

### **12.2.3 Construction Vibration Mitigation**

After using the above approach to locate potential impacts (or damage) from construction vibrations, the next step is to identify control measures. Similar to the approach for construction noise, mitigation of construction vibration requires consideration of equipment location and processes, as follows:

1. *Design considerations and project layout:*
  - Route heavily loaded trucks away from residential streets, if possible. Select streets with fewest homes, if no alternatives are available.
  - Operate earthmoving equipment on the construction lot as far away from vibration-sensitive sites as possible.
2. *Sequence of operations:*
  - Phase demolition, earthmoving and ground-impacting operations so as not to occur in the same time period. Unlike noise, the total vibration level produced could be significantly less when each vibration source operates separately.
  - Avoid nighttime activities. People are more aware of vibration in their homes during the nighttime hours.
3. *Alternative construction methods:*
  - Avoid impact pile driving where possible in vibration-sensitive areas. Drilled piles or the use of a sonic or vibratory pile driver causes lower vibration levels where the geological conditions permit their use (however, see cautionary note below).
  - Select demolition methods not involving impact, where possible. For example, sawing bridge decks into sections that can be loaded onto trucks results in lower vibration levels than impact demolition by pavement breakers, and milling generates lower vibration levels than excavation using clam shell or chisel drops.
  - Avoid vibratory rollers and packers near sensitive areas.

Pile driving is potentially the greatest source of vibration associated with equipment used during construction of a project. The source levels in Table 12-2 indicate that sonic pile drivers may provide substantial reduction of vibration levels. However, there are some additional vibration effects of sonic pile drivers that may limit their use in sensitive locations. A sonic pile driver operates by continuously shaking the pile at a fixed frequency, literally vibrating it into the ground. Vibratory pile drivers operate on the same principle, but at



a different frequency. However, continuous operation at a fixed frequency may be more noticeable to nearby residents, even at lower vibration levels. Furthermore, the steady-state excitation of the ground may increase resonance response of building components. Resonant response may be unacceptable in cases of fragile historical buildings or vibration-sensitive manufacturing processes. Impact pile drivers, on the other hand, produce a high vibration level for a short time (0.2 seconds) with sufficient time between impacts to allow any resonant response to decay.

## REFERENCES

1. Society of Automotive Engineers, "Exterior Sound Level Measurement Procedure for Powered Mobile Construction Equipment," SAE Recommended Practice J88a, 1976.
2. Society of Automotive Engineers, "Sound Levels for Engine Powered Equipment," SAE Standard J952b, 1976.
3. U.S. Environmental Protection Agency, "Noise from Construction Equipment and Operations, Building Equipment and Home Appliances," NTID300.1, December 31, 1971.
4. U.S. Department of Transportation, "Final Environmental Impact Statement, 4(f) Statement; Replacement of Shaw's Cove Bridge and Approaches," FRA-RNC-EIS-80-02-F, September 16, 1981.
5. C.F. Rosenberg and C.M. Salter, "Noise of Pile Driving Equipment," Presentation at Acoustical Society of America Meeting, Washington DC, 20-22 April 1971.
6. William R. Fuller and Ron Brown, "Analysis and Abatement of Highway Construction Noise," EPA 550/9-81-314-A, U.S. Environmental Protection Agency, Office of Noise Abatement and Control and U.S. Department of Transportation, Federal Highway Administration, June 1981.
7. Jerry A. Reagan and Charles A. Grant, "Special Report - Highway Construction Noise: Measurement, Prediction and Mitigation," U.S. Department of Transportation, Federal Highway Administration, 1977.
8. D.J. Martin, "Ground Vibrations from Impact Pile Driving during Road Construction," Supplementary Report 544, United Kingdom Department of the Environment, Department of Transport, Transport and Road Research Laboratory, 1980.
9. J.F. Wiss, "Vibrations During Construction Operations," Journal of Construction Division, Proc. American Society of Civil Engineers, 100, No. CO3, pp. 239 - 246, September 1974.
10. J.F. Wiss, "Damage Effects of Pile Driving Vibrations," Highway Research Record, No. 155, Highway Research Board, 1967.
11. David A. Towers and Yuki Kimura, "Central Artery / Tunnel Project: Hydromill Vibration Testing," report prepared for Massachusetts Highway Department, February 1995.
12. Swiss Consultants for Road Construction Association, "Effects of Vibration on Construction," VSS-SN640-312, Zurich, Switzerland, November 1978.

## **13. DOCUMENTATION OF NOISE AND VIBRATION ASSESSMENT**

To be effective, the noise and vibration analysis must be presented to the public in a clear, yet comprehensive manner. The mass of technical data and information necessary to withstand scrutiny in the environmental review process must be documented in a way that remains intelligible to the public. Justification for all assumptions used in the analysis, such as selection of representative measurement sites and all baseline conditions, must be presented for review. For large-scale projects, the environmental document contains a condensation of essential information in order to maintain a reasonable size. For these projects, separate technical reports are usually prepared as supplements to the Environmental Impact Statement (EIS) or Environmental Assessment (EA). For smaller projects, or ones with minimal noise or vibration impact, all the technical information may be presented in the environmental document itself. This chapter gives guidance on how the necessary noise and vibration information should be included in the project's environmental documentation.

### **13.1 THE TECHNICAL REPORT ON NOISE AND VIBRATION**

A separate technical report is often prepared as a supplement to the environmental document (EIS or EA). A technical report is appropriate in cases when the wealth of data can not all be placed in the environmental document. The details of the analysis are important for establishing the basis for the assessment. Consequently, all the details in the technical report should be contained in a well-organized format for easy access to the information. While the technical report is not intended to be a primer on the subject, the technical data and descriptions should be presented in a manner that can be understood by the general public. All the necessary background information should be present in the technical report, including tables, maps, charts, drawings and references that may be too detailed for the environmental document, but which are important in helping to draw conclusions about the project's noise and vibration impacts and mitigation options.

### **13.1.1 Organization of Technical Report**

The Technical Report on Noise/ Vibration should contain the following major subject headings, along with the key information content described below. If both noise and vibration have been analyzed, it is generally preferable to separate the noise and vibration sections; as shown in this Guidance Manual, the approaches to the two topics are quite different.

**Overview** – This section contains a brief description of the project and an overview of the noise/vibration concerns. It sets forth the initial considerations in framing the scope of the study.

**Inventory of Noise/Vibration-Sensitive Sites** – The approach for selecting noise/vibration- sensitive sites should be described in sufficient detail to demonstrate completeness. Sites and site descriptions are to be included.

**Measurements of Existing Noise/Vibration Conditions** – The basis for selecting measurement sites should be documented, along with tables of sites coordinated with maps showing locations of sites. If the measurement data are used to estimate existing conditions at other locations, the rationale and the method should be included. Measurement procedures should be fully described. Tables of measurement instruments should include manufacturer, type, serial number and date of most recent calibration by authorized testing laboratory. Measurement periods, including time of day and length of time at each site should be shown to demonstrate adequate representation of the ambient conditions. The measurement data should be presented in well organized form in tables and figures. A summary and interpretation of measured data should be included.

**Special Measurements Related to the Project** – Some projects require specialized measurements at sensitive sites, such as outdoor-to-indoor noise level reduction of homes, or transmission of vibrations into concert halls and recording studios. Other projects may need special source level characterization. Full description of the measurements and the results should be included.

**Predictions of Noise/Vibration from the Project** – The prediction model used for estimating future project conditions should be fully described and referenced. Any changes or extensions to the models recommended in this manual should be fully described so that the validity of the adjustments can be confirmed. Specific data used as input to the models should be listed. Computed levels should be tabulated and illustrated by contours, cross-sections or shaded mapping. It is important to illustrate noise/vibration impacts with base maps at a scale with enough detail to provide location reference for the reader.

**Noise/Vibration Criteria** – Impact criteria for the project should be fully described and referenced (refer to Chapters 3 and 8). In addition, any applicable local ordinances should be described. Tables specifying the criteria levels should also be included. If the project involves considerable construction, and a separate construction noise and vibration analysis will be included, then construction criteria should appear in a separate section with its own assessment.

**Noise/Vibration Impact Assessment** – The impact assessment should be described according to the procedures outlined in this manual. A resulting impact inventory should be presented for each alternative mode or alignment in a format that allows ready comparison among alternatives. The

inventory should be tabulated according to the different types of land uses affected. The results of the assessment may be presented both before and after mitigation.

**Noise/Vibration Mitigation** – The mitigation section of the technical report should begin with a summary of all treatments considered, even if some are not carried to final consideration. Final candidate mitigation treatments should be considered separately with description of the features of the treatment, costs, expected benefit in reducing impacts, locations where the benefit would be realized and discussion of practicality of implementing alternative treatments. Enough information is to be included to allow the project sponsor and FTA to reach decisions on mitigation prior to issuance of the final environmental document.

**Construction Noise/Vibration Impacts** – Criteria adopted for construction noise or vibration should be described, if appropriate. According to Chapter 12, these may be adopted on a project-specific basis. The method used for predicting construction noise or vibration should be described along with inputs to the models, such as equipment roster by construction phase, equipment source levels, assumed usage factors and other assumed site characteristics. The predicted levels should be shown for sensitive sites and short-term impacts should be identified. Feasible abatement methods should be discussed in enough detail such that construction contract documents could include mitigation measures.

**References** – Documentation is an important part of the validation of the technical report. References should be provided for all criteria, approaches and data used in the analyses, including other reports related to the project which may be relied on for information, e.g., geotechnical reports.

## 13.2 THE ENVIRONMENTAL DOCUMENT

The environmental document typically includes noise and vibration information in three places: a section of the chapter on the affected environment (existing conditions) and two sections in the chapter on environmental consequences (long-term and short-term impacts). The noise and vibration information presented in the environmental document is a summary of the comprehensive information from the technical report with emphasis on presenting the salient points of the analysis in a format and style which affected property owners and other interested citizens can understand. Smaller projects may have all of the technical information contained within the environmental document, requiring special care in summarizing technical details to convey the information adequately.

The environmental document provides full disclosure of noise and vibration impacts, including identification of locations where impacts cannot be mitigated satisfactorily. An EIS describes significant impacts and tells what the Federal agency intends to do about them. Issuing a Finding of No Significant Impact (FONSI) may depend on mitigation being included. The specific way mitigation is handled in the environmental document depends on the stage of project development and the stage of environmental review. For example, a Draft EIS may discuss different options to mitigate noise or vibration, deferring the final selection of measures to the Final EIS. It may be particularly important to present mitigation options at an early stage, especially if there is a benefit in receiving input from the public on the choices.

The final environmental document (Final EIS or FONSI) contains a commitment to mitigate. Two approaches can be taken for expressing this commitment. The document could describe the actual mitigation measures that will be employed, along with the reductions in noise or vibration expected to occur. In this case, the write-up includes language that makes it clear that the measures will be implemented if the project is approved. However, in some cases, mitigation measures are still under study in the environmental review and will not be selected until the final design stage. In such cases, the final environmental document expresses a commitment to mitigate impacts that are verified during final design. Mitigation in these cases is addressed in the form of a "performance standard" to be met by using one or more of the measures under study.

After a final environmental document is approved, the described mitigation measures are incorporated by reference in the actual grant agreements signed by FTA and the project sponsor. Thus, they become contractual conditions that must be adhered to by the project sponsor.

### **13.2.1 Organization of Noise and Vibration Sections of Environmental Documents**

#### **Chapter on Affected Environment (Existing Conditions)**

This chapter describes the pre-project setting, including the existing noise and vibration conditions, that will likely be affected by one or more of the alternatives. The primary function of this chapter is to establish the focus and baseline conditions for later chapters discussing environmental impacts. Consequently, it is a good place to put basic information on noise and vibration descriptors and effects, as well as describing the characteristics in the vicinity of the project. Again, it is preferable to separate the noise and vibration sections.

- **Description of Noise/Vibration Descriptors, Effects and Typical Levels.** Information from Chapters 2 and 7 of this manual can be used to provide a background for the discussions of noise/vibration levels and characteristics to follow. Illustrative material to guide the reader in understanding typical levels is helpful.
- **Inventory of Noise/Vibration-Sensitive Sites.** The approach for selecting noise/vibration-sensitive sites should be described in sufficient detail to demonstrate completeness. Sites and site descriptions are to be included.
- **Noise/Vibration Measurements.** A summary of the site selection procedure should be included along with tables of sites coordinated with maps showing locations of sites. The measurement approach should be summarized with justification for the measurement procedures used. The measurement data should be presented in well organized form in tables and figures. To save space, the results are often included with the table of sites described above. In some cases, measurements may be supplemented or replaced by collected data relevant to the noise and vibration characteristics of the area. For example, soils information for estimating ground-borne vibration propagation characteristics may be available from other projects in the area. Fundamental to this section is a summary and interpretation of how the collected data define the project setting.

#### **Chapter on Environmental Consequences.**

The section on long-term impacts -- the impacts due to operation of the project -- should be organized according to the following order.

- **Overview of Approach.** A summary of the assessment procedure for determining noise/vibration impacts is provided as a framework for the following sections.
- **Estimated Noise/Vibration Levels.** A general description of prediction models used to estimate project noise/vibration levels should be provided. Any distinguishing features unique to the project, such as source levels associated with various technologies, should be described. The results of the predictions for various alternatives should be described in general terms first, followed by a detailed accounting of predicted noise levels. This information should be supplemented with tables and illustrated by contours, cross-sections or shaded mapping. If contours are included in a technical report, then it is not necessary to repeat them here.
- **Criteria for Noise/Vibration Impact.** Impact criteria for the project should be fully described and referenced (refer to Chapters 3 and 8). In addition, any applicable local ordinances should be described. Tables listing the criterion levels should be included.
- **Impact Assessment.** The impact assessment can be a section by itself or can be combined with the section above. It is important to provide a description of locations where noise/vibration impact is expected to occur without implementation of mitigation measures, based on the predicted future levels, existing levels and the criteria for impact. Inventory tables of impacted land uses should be used to quantify the impacts for comparisons among alternatives. The comprehensive list of noise/vibration sensitive sites identified in the Affected Environment chapter should be included in this inventory table.
- **Noise/Vibration Mitigation Measures.** Perhaps the most significant difference between the technical report and the environmental document is in the area of mitigation. Whereas the technical report discusses options and may make recommendations, the environmental document provides the vehicle for reaching decisions on appropriate mitigation measures with consideration given to environmental benefits, feasibility and cost. This section should begin with a summary of all noise/vibration mitigation measures considered for the impacted locations. The specific measures selected for implementation should be fully described. However, for projects where technical details of the mitigation measures cannot be specified at the environmental assessment stage, a commitment is made to the level of abatement; the EIS must demonstrate that mitigation measures under consideration will achieve the necessary reduction. Reasons for dismissing any abatement measures should also be clearly stated, especially if such non-implementation results in significant adverse effects. The expected benefits for each treatment in reducing impact should be given for each location.
- **Unavoidable Adverse Environmental Effects.** If it is projected that adverse noise/vibration impacts will result after all reasonable abatement measures have been incorporated, these impacts are identified in this section.

#### **Impacts During Construction**

The environmental document may have a separate section on short-term impacts due to project construction, depending on the scale of the project. For a major project there may be a special section on construction noise/vibration impacts; this section should be organized according to the comprehensive outline described above. For projects with relatively minor effects, a briefer format should be utilized, with a section included in the chapter on Environmental Consequences.



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## **ATTACHMENTS**

**ATTACHMENT 1**

**NOP RESPONSES**



Gray Davis  
GOVERNOR

STATE OF CALIFORNIA

Governor's Office of Planning and Research  
State Clearinghouse



Tal Finney  
INTERIM DIRECTOR

Notice of Preparation

April 19, 2002

To: Reviewing Agencies

Re: Third Main Track and Seven Grade Separations Project. BNSF  
SCH# 2002041111

Attached for your review and comment is the Notice of Preparation (NOP) for the Third Main Track and Seven Grade Separations Project, BNSF draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Gary Iverson  
Department of Transportation, District 7  
120 South Spring Street  
Los Angeles, CA 90012

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan  
Project Analyst, State Clearinghouse

Attachments  
cc: Lead Agency

**Document Details Report  
State Clearinghouse Data Base**

**SCH#** 2002041111  
**Project Title** Third Main Track and Seven Grade Separations Project, BNSF  
**Lead Agency** Caltrans #7

---

**Type** NOP Notice of Preparation  
**Description** The Department of Transportation, Caltrans District 7 (Caltrans), will serve as the Lead Agency under the CEQA and will coordinate the preparation of a focused program Environmental Impact Report (PEIR) that will evaluate the potential significant environmental impacts that may result from construction of railroad track improvements (a new third main track and supporting infrastructure) and seven graded separations along a 14.7 mile segment of the Burlington North Santa Fe Railway Company's East-West Main Line Railroad Track.

---

**Lead Agency Contact**

**Name** Gary Iverson  
**Agency** Department of Transportation, District 7  
**Phone** 213-897-3818 **Fax**  
**email**  
**Address** 120 South Spring Street  
**City** Los Angeles **State** CA **Zip** 90012

---

**Project Location**

**County** Los Angeles, Orange  
**City** Buena Park, Commerce, Fullerton, La Mirada, Montebello, ...  
**Region**

**Cross Streets**

**Parcel No.**

<b>Township</b>	<b>Range</b>	<b>Section</b>	<b>Base</b>
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**Proximity to:**

**Highways** 5 and SH 605  
**Airports** Fullerton Airport  
**Railways** Burlington Northern Santa Fe RR  
**Waterways** San Gabriel River and Coyote Creek  
**Schools**  
**Land Use** Transportation

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**Project Issues** Air Quality; Archaeologic-Historic; Flood Plain/Flooding; Geologic/Seismic; Noise; Soil Erosion/Compaction/Grading; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Wetland/Riparian; Wildlife; Cumulative Effects

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**Reviewing Agencies** Resources Agency; Department of Conservation; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; Department of Fish and Game, Region 5; Native American Heritage Commission; Public Utilities Commission; State Lands Commission; California Highway Patrol; Air Resources Board, Transportation Projects; Department of Toxic Substances Control; Regional Water Quality Control Board, Region 4

---

**Date Received** 04/19/2002 **Start of Review** 04/19/2002 **End of Review** 05/20/2002

# NOP Distribution List

2002041111  
SCH#

County: Los Angeles / Orange

## Resources Agency

☒ Resources Agency  
Nadell Gayou

☐ Dept. of Boating & Waterways  
Bill Curry

☐ California Coastal Commission  
Elizabeth A. Fuchs

☒ Dept. of Conservation  
Roseanne Taylor

☐ Dept. of Forestry & Fire Protection  
Allen Robertson

☒ Office of Historic Preservation  
Hans Kreutzberg

☒ Dept. of Parks & Recreation  
B. Noah Tilghman  
Environmental Stewardship Section

☐ Reclamation Board  
Pam Bruner

☐ S.F. Bay Conservation & Dev't. Comm.  
Steve McAdam

☒ Dept. of Water Resources  
Resources Agency  
Nadell Gayou

## Health & Welfare

☐ Health & Welfare  
Wayne Hubbard  
Dept. of Health/Drinking Water

## Food & Agriculture

☐ Food & Agriculture  
Steve Shaffer  
Dept. of Food and Agriculture

## Fish and Game

☐ Dept. of Fish & Game  
Scott Flint  
Environmental Services Division

☐ Dept. of Fish & Game 1  
Donald Koch  
Region 1

☐ Dept. of Fish & Game 2  
Banky Curtis  
Region 2

☐ Dept. of Fish & Game 3  
Robert Floerke  
Region 3

☐ Dept. of Fish & Game 4  
William Laudermilk  
Region 4

☒ Dept. of Fish & Game 5  
Don Chadwick  
Region 5, Habitat Conservation Program

☐ Dept. of Fish & Game 6  
Gabrina Gatchel  
Region 6, Habitat Conservation Program

☐ Dept. of Fish & Game 6 I/M  
Tammy Allen  
Region 6, Inyo/Mono, Habitat Conservation Program

☐ Dept. of Fish & Game M  
Tom Napoli  
Marine Region

## Independent Commissions

☐ California Energy Commission  
Environmental Office

☒ Native American Heritage Comm.  
Debbie Treadway

☒ Public Utilities Commission  
Ken Lewis

☒ State Lands Commission  
Betty Silva

☐ Governor's Office of Planning & Research  
State Clearinghouse Planner

☐ Colorado River Board  
Gerald R. Zimmerman

☐ Tahoe Regional Planning Agency (TRPA)  
Lyn Barnett

☐ Office of Emergency Services  
John Rowden, Manager

☐ Delta Protection Commission  
Debby Eddy

☐ Santa Monica Mountains Conservancy  
Paul Edelman

## Dept. of Transportation

☐ Dept. of Transportation 1  
IGR/Planning  
District 1

☐ Dept. of Transportation 2  
Vicki Roe  
Local, Development Review, District 2

☐ Dept. of Transportation 3  
Jeff Pulverman  
District 3

☐ Dept. of Transportation 4  
Jean Finney  
District 4

☐ Dept. of Transportation 5  
James Kilmer  
District 5

☐ Dept. of Transportation 6  
Marc Birnbaum  
District 6

☐ Dept. of Transportation 7  
Stephen J. Buswell  
District 7

☐ Dept. of Transportation 8  
Mike Sim  
District 8

☐ Dept. of Transportation 9  
Colleen O'Brien  
District 9

☐ Dept. of Transportation 10  
Chris Sayre  
District 10

☐ Dept. of Transportation 11  
Lou Salazar  
District 11

☒ Dept. of Transportation 12  
Aileen Kennedy  
District 12

## Business, Trans. & Housing

☐ Housing & Community Development  
Cathy Creswell  
Housing Policy Division

☐ Caltrans - Division of Aeronautics  
Sandy Hesnard

☒ California Highway Patrol  
Lt. Julia Page  
Office of Special Projects

☐ Dept. of Transportation  
Ron Helgeson  
Caltrans - Planning

☐ Dept. of General Services  
Robert Sleppey  
Environmental Services Section

☐ Air Resources Board  
Airport Projects  
Jim Lerner

☒ Transportation Projects  
Kurt Karperos

☐ Industrial Projects  
Mike Tolstrup

☐ California Integrated Waste Management Board  
Sue O'Leary

☐ State Water Resources Control Board  
Diane Edwards  
Division of Clean Water Programs

☐ State Water Resources Control Board  
Greg Frantz  
Division of Water Quality

☐ State Water Resources Control Board  
Mike Falkenstein  
Division of Water Rights

☒ Dept. of Toxic Substances C  
CEQA Tracking Center

☐ Regional Water Quality Control Board (RWQCB)

☐ RWQCB 1  
Cathleen Hudson  
North Coast Region (1)

☐ RWQCB 2  
Environmental Document Coordinator  
San Francisco Bay Region (2)

☐ RWQCB 3  
Central Coast Region (3)

☒ RWQCB 4  
Jonathan Bishop  
Los Angeles Region (4)

☐ RWQCB 5S  
Central Valley Region (5)

☐ RWQCB 5F  
Central Valley Region (5)  
Fresno Branch Office

☐ RWQCB 5R  
Central Valley Region (5)  
Fredding Branch Office

☐ RWQCB 6  
Lahontan Region (6)

☐ RWQCB 6V  
Lahontan Region (6)  
Victorville Branch Office

☐ RWQCB 7  
Colorado River Basin Region (7)

☐ RWQCB 8  
Santa Ana Region (8)

☐ RWQCB 9  
San Diego Region (9)

**A.C. Industrial Properties LLC  
8081 Orangethorpe Avenue  
Buena Park, CA 90621-3801  
(714) 523-2244  
(714) 523-2440 FAX**

April 19, 2002

Department of Transportation  
Office of the Director  
1120 N Street  
P.O. Box 942873  
Sacramento, CA 94273-0001

Attn: Mr. Gary Iverson, Office Chief, Division of Environmental Planning

Re: BNSF Railroad grade separation project at Pioneer Blvd., S.F.S. and the effects on the property at  
8731-41 Pioneer Blvd., Santa Fe Springs

Dear Mr. Iverson:

After the meetings on March 21, 2002 and April 16, 2002 with representatives of the City of Santa Fe Springs, Burlington Northern Santa Fe Railroad and Hanson Wilson, I have major concerns regarding the future grade separation project at the railroad crossing north of the property at 8731-41 Pioneer Blvd. in Santa Fe Springs that is owned by A.C. Industrial Properties LLC.

Changes to the above-mentioned property that were discussed and are said to be in the current plan would result in:

1. Loss of onsite vehicle parking spaces on a property that currently has just enough parking;
2. Loss of an access driveway from Pioneer Blvd. to the vehicle parking area for the office building;
3. Loss of a ground level access/loading door to the manufacturing building;
4. Loss of landscape area which adds prestige to both buildings; and
5. Substantial inconveniences and loss of use of the property during construction.

A.C. Industrial Properties LLC purchased this property three years ago and spent well over \$500,000 in complete rehabilitation of the land and buildings to their current pristine and functional condition. The on-site parking and the easy access to it by our tenant, Corrugated Services Western, Inc. ("CSW"), are critical to their operations. They have office employees, production employees, executives and visitors that currently require the use of all of the existing parking. Removal of the northern most driveway will leave just one driveway for both access to car parking for office employees, production employees, executives, and visitors, and even more importantly the trucks loading/unloading at the ground level doors and the two dock high truck positions. The loss of a ground level access/loading door will be detrimental to the functionality of the manufacturing building

The landscape area lost to the approximately seventeen-foot high retaining wall will impair the corporate headquarters image required by CSW and their executives. CSW is a division of an international paper company that produces premium cardboard packaging products within a quick turnaround time. Their lease may come up for renewal during the construction period and I suspect they will undoubtedly leave

the property or demand a substantial rent reduction due to the construction as well as the loss of use and "high image".

In sum, A.C. Industrial Properties LLC will incur considerable financial damage and therefore requests that the railroad project be terminated.

If you have any questions, please contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Steven Cohen", written over a horizontal line.

Steven Cohen  
Manager

C:\My Documents\Miscellaneous\PION-SFS SFS railroad improve.doc

Gray Davis, Governor

STATE OF CALIFORNIA

## NATIVE AMERICAN HERITAGE COMMISSION

915 CAPITOL MALL, ROOM 364  
SACRAMENTO, CA 95814  
(916) 653-4082  
(916) 657-5390 - Fax



May 3, 2002

Gary Iverson  
Department of Transportation, District 7  
120 South Spring Street  
Los Angeles, CA 90012

RE: SCH# 2002041111 - Third Main Track and Seven Grade Separations Project, BNSF

Dear Mr. Iverson:

The Native American Heritage Commission has reviewed your letter regarding the above project. To adequately assess and mitigate project-related impacts on archaeological resources, the Commission recommends the following actions be required:

- ✓ Contact the appropriate Information Center for a record search. The record search will determine:
  - If a part or all of the area of project effect (APE) has been previously surveyed for cultural resources.
  - If any known cultural resources have already been recorded on or adjacent to the APE.
  - If the probability is low, moderate, or high that cultural resources are located in the APE.
  - If a survey is required to determine whether previously unrecorded cultural resources are present.
- ✓ If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
  - The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure.
  - The final written report should be submitted within 3 months after work has been completed to the appropriate regional archaeological Information Center.
- ✓ Contact the Native American Heritage Commission for:
  - A Sacred Lands File Check.
  - A list of appropriate Native American Contacts for consultation concerning the project site and to assist in the mitigation measures.
- ✓ Lack of surface evidence of archeological resources does not preclude their subsurface existence.
  - Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally-discovered-archeological resources, per California Environmental Quality Act (CEQA) §15064.5 (f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities.
  - Lead agencies should include in their mitigation plan provisions for the disposition of recovered artifacts, in consultation with culturally affiliated Native Americans.
  - Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, CEQA §15064.5 (e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

Sincerely,

A handwritten signature in cursive script, appearing to read "Rob Wood".

Rob Wood  
Environmental Specialist III  
(916) 653-4040

CC: State Clearinghouse



May 4<sup>th</sup>, 2002



Gary Iverson, Office Chief  
120 South Spring Street  
Los Angeles, CA 90012

Dear Mr. Iverson,

We are responding in regards to the impact that the residents of Pico Rivera will be facing by the additional train track that will be added. The questions that come to mind, and would like some attention to are listed below.

1. We have some issues that will only increase with an additional track. Why doesn't BSNF continue to use only the two tracks with the underpass at the Passons/Rivera without affecting the neighborhood?
2. Why didn't the responsible agency notify all city residents affected by the additional track?
3. Who is going to be held accountable for the increase in structural damages to our homes? How is this problem going to be resolved? Will monies be available to replace our windows and repair all other damages to our homes that are received due to the massive sound waves? Can we file damage claims and can city funds be used?
4. What is being planned on doing about the increased air pollution in our community due to more train tracks?
5. Who is going to guarantee us, the residents of Pico Rivera, that we will not have an increase in the number of trains or volume of transits now or later on in the future?
6. By adding the train track, will the switching of the trains increase, and what can you do for the residents of Pico Rivera, in order to provide us with a restful night's sleep? Can the activity or switching of the trains, be moved to another train yard?

7. Is there anything being done about the noise levels in Pico Rivera due to the switching of trains, forwarding and reversing, loud connecting bangs, and loud excessive blowing of the horns in the middle of the night? How can you make this community a quiet zone?
8. Has anybody taken into account the increased possibility of train derailments, hazardous materials being spilled, and stored in our neighborhood?
9. Has anybody considered the affects we will have when Rosemead and Paramount Blvd are closed, due to the reconstruction of the bridges, especially with the upcoming openings of new businesses in that very same area?
10. Will this third track be used for switching activities?

Vicente Hernandez  
Julio Soto

9041 E. RIVERA RD PICO RIVERA

8943 WARVALE ST PICO RIVERA

MAY 21 2002 9:07AM HP LASERJET 3200

P.3

May 9, 2002

TO: Rod Kubomoto  
Watershed Management Division

FROM: John T. Walker  
Traffic and Lighting Division

**THIRD MAIN TRACK AND GRADE SEPARATION PROJECT ON THE BURLINGTON  
NORTHERN SANTA FE RAILWAY COMPANY EAST-WEST MAIN LINE RAILROAD  
TRACK**

**NOTICE OF COMPLETION/INITIAL STUDY  
LOS ANGELES AND ORANGE COUNTIES**

As requested, we have reviewed the above-mentioned document. The rail corridor extends from the City of Commerce (Hobart Station) about 14.7 miles south to the City of Fullerton (Basta Station).

The primary improvements proposed are the immediate installation of a third main track over this 14.7 mile segment of main line track and the installation of up to seven grade separation projects. The goal of the proposed project is to improve the efficiency, capacity and safety along this segment of the rail corridor and to meet the anticipated future demand.

The California Department of Transportation (Caltrans) is the lead agency and will prepare a Program Environmental Impact Report (PEIR) that will evaluate the potential significant environmental impacts that may result from construction of the railroad track improvements and seven grade separations along this segment of the Burlington Northern Santa Fe Railway Company's East-West Main Line Railroad Track.

We welcome the opportunity and look forward to review the (PEIR) upon its completion. The County's methodology should be used when evaluating the County and/or County/City/Caltrans intersections. A copy of our Traffic Impacts Analysis Report Guidelines is attached.

We recommend that Orange County and the Cities of Buena Park, Commerce, Fullerton, La Mirada, Montebello, Norwalk, Pico Rivera, and Santa Fe Springs review this document for any significant impacts/mitigations within their jurisdictions.

Rod Kubomoto  
May 8, 2002  
Page 2

If you have any questions, please contact Patrick Arakawa of our Traffic Studies Section at Extension 4867.

PA:  
T-4/EIR02093.wpd

Attach.

cc: T. M. Alexander



## Department of Toxic Substances Control



Winston H. Hickox  
Agency Secretary  
California Environmental  
Protection Agency

Edwin F. Lowry, Director  
1011 N. Grandview Avenue  
Glendale, California 91201

Gray Davis  
Governor

May 13, 2002

Mr. Gary Iverson  
Department of Transportation, District 7  
120 South Spring Street  
Los Angeles, California 90012

### NOTICE OF PREPARATION OF DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE THIRD MAIN TRACK AND SEVEN GRADE SEPARATIONS PROJECT, BNSF, SCH NO. 2002041111

Dear Mr. Iverson:

The Department of Toxic Substances Control (DTSC) has received your Notice of Preparation of a draft Environmental Impact Report (EIR) for the project mentioned above.

Based on the review of the document, DTSC comments are as follows:

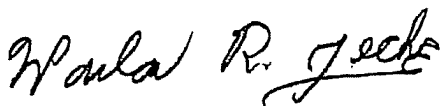
1. The EIR needs to identify and determine whether current or historic uses at the Project site have resulted in any release of hazardous wastes/substances at the Project area. For all identified Sites, the EIR needs to evaluate whether conditions at the Site pose a threat to human health or the environment.
2. The EIR needs to identify any known or potentially contaminated site within the project area. For all identified sites, the EIR needs to evaluate whether conditions at the site pose a threat to human health or the environment.
3. The EIR should identify the mechanism to initiate any required investigation and/or remediation for any site that may require remediation, and which government agency will provide appropriate regulatory oversight.
4. If during construction of the project, soil contamination is suspected, construction in the area should stop, and appropriate health and safety procedures should be implemented. If it is determined that contaminated soils exists, the EIR should

Mr. Gary Iverson  
May 13, 2002  
Page 2

identify how any required investigation and/or remediation will be conducted, and which government agency will provide regulatory oversight.

DTSC provides guidance for Preliminary Endangerment Assessment preparation and cleanup oversight through the Voluntary Cleanup Program (VCP). For additional information on the VCP please visit DTSC's web site at [www.dtsc.ca.gov](http://www.dtsc.ca.gov). If you would like to meet and discuss this matter further, please contact Mr. Alberto Valmidiano, Project Manager, at (818) 551-2870 or me, at (818) 551-2877.

Sincerely,



Harlan R. Jeche  
Unit Chief  
Southern California Cleanup Operations Branch – Glendale Office

cc: Governor's Office of Planning and Research  
State Clearinghouse  
P.O. Box 3044  
Sacramento, California 95812-3044

Mr. Guenther W. Moskat, Chief  
Planning and Environmental Analysis Section  
CEQA Tracking Center  
Department of Toxic Substances Control  
P.O. Box 806  
Sacramento, California 95812-0806



# Department of Toxic Substances Control



Winston H. Hickox  
Agency Secretary  
California Environmental  
Protection Agency

Edwin F. Lowry, Director  
1001 "I" Street, 25<sup>th</sup> Floor  
P.O. Box 806  
Sacramento, California 95812-0806

Gray Davis  
Governor

## MEMORANDUM

DEPARTMENT OF TOXIC SUBSTANCES CONTROL  
SOUTHERN CALIFORNIA SITE MITIGATION BRANCH

TO: Sayerah Amirebrahimi, Branch Chief  
Site Mitigation Program, Region 3

MAY 03 2002

FROM: Guenther W. Moskat, Chief  
Planning and Environmental Analysis Section

RECEIVED

DATE: April 30, 2002

SUBJECT: TRANSMITTAL AND REVIEW OF LEAD AGENCY ENVIRONMENTAL DOCUMENTS FOR  
Third Main Track and Seven Grade Separations Project, BNSF - 2002041111

This Department has received a(n) Notice of Preparation for the project listed above. The project is being referred to you as a:

☒ Non-Essential/Information Item Only

A Courtesy Copy of the Notice of Completion Transmittal Form has also been sent to:

☐ Sensitive Land Use Project

☒ Permitting Branch (document not included)

☐ Non-Sensitive land Use Project

The Department is encouraged to review this project and if applicable make comments pertaining to the project as it relates to hazardous waste and/or any activities which may fall within the Department's jurisdiction. Please have your staff: 1) conduct its review of the attached document prior to the end of the comment period; 2) complete the application items below; and 3) return this transmittal sheet and a copy of any response letter from your office to:

Planning & Environmental Analysis Section (PEAS)  
CEQA Tracking Center  
1001 I Street, 22<sup>nd</sup> Floor  
P.O. Box 806  
Sacramento, California 95812-0806  
Fax (916) 323-3215

Date Comment Period Began: 04/19/2002

Comments due to Lead Agency:

Comments due to OPR: 05/20/2002

Reviewed by: Antalidis

Date: 5/10/02

COMMENTS have been prepared and a copy has been provided to PEAS via:

☒ Attached Copy  
☐ FAX (916) 323-3215

NO COMMENTS NECESSARY because:

- ☐ All Department concerns have been adequately addressed; OR  
☐ Project does not fall within the Department's areas of responsibility

Thank you for your assistance with this project. If you have any questions, please contact Ken Tipon, CEQA Tracking Center, at (916) 322-5266.

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Web-site at [www.dtsc.ca.gov](http://www.dtsc.ca.gov).

**FULLERTON REDEVELOPMENT AGENCY**

303 W. Commonwealth Avenue, Fullerton, CA 92832-1775

Website: [www.ci.fullerton.ca.us](http://www.ci.fullerton.ca.us)

Telephone • (714) 738-6877

Fax • (714) 738-6843

May 13, 2002

Mr. Gary Iverson, Office Chief  
California Department of Transportation  
Division of Environmental Planning  
120 S. Spring Street  
Los Angeles, CA 90012

Dear Mr. Iverson:

We have received copies of the Notice of Preparation and Initial Study for the Third Main Track and Grade Separation Project.

The proposed project will be partially constructed in the City of Fullerton, although no at-grade crossings will be affected. The Third Main Track will be constructed within the existing Burlington Northern Santa Fe right-of-way.

Our comments on this proposed project are as follows:

1. Since the limit of the project is at Basta in Fullerton, that should be reflected on Figure 2F.
2. Figure 2G should be deleted because it is outside the project limit.
3. It is stated in the Notice of Preparation that the Third Main Track will be installed immediately regardless of when the grade separation projects are funded and implemented. The grade separations would appear to be logical mitigations for the Third Main Track impacts on adjacent streets. As part of the project, there should be a schedule established for funding and construction of the grade separations.

Thank you for the opportunity to offer comments. Overall, the proposed Third Main Track project should be beneficial to the movement of freight and passenger rail traffic through the area.

Sincerely,

Terry M. Galvin  
Redevelopment Operations Manager



May 16 02 08:04p

Gary Weber

714-569-0218

p. 1

**WEBER CONSULTING**

May 16, 2002

VIA FAX AND MAIL

California Department of Transportation  
Division of Environmental Planning  
Attn: Gary Iverson, Office Chief  
120 South Spring Street  
Los Angeles, CA 90012

RE: **NOTICE OF PREPARATION AND INITIAL STUDY FOR THE GRADE SEPARATION  
AND BURLINGTON NORTHERN-SANTA FE RAILWAY COMPANY RAIL PROJECT**


Dear Mr. Iverson:

Thank you for the opportunity to comment on the Notice of Preparation and Initial Study for the Grade Separation and Burlington Northern Santa Fe Rail project. As a consultant for Majestic Realty, an affected property owner, I have reviewed the environmental documentation and have had preliminary conversations regarding project design with key Caltrans and Burlington Northern Santa Fe representatives. They have been most helpful.

Our comments are quite simple; we believe that the environmental analysis in the Initial Study has not adequately or accurately addressed land use and circulation impacts as they relate to properties at 14950-52 Valley View, 14209-11 Gannet Street, and 13833 Borate Street. Moreover, we believe that the preliminary plans and project description do not accurately depict the proposed improvements or impacts to these properties. For example, the preliminary plan indicates no change to the entrance to the Valley View property; however, the cross section indicates relatively major changes to the driveway and access ramp. Additionally, there is no discussion of the impact of using the Valley View property for access to an adjacent property. There is also no discussion of the impact of access to the Valley View property during the temporary realignment of Valley View.

We understand that this comment period is intended to allow early input into the environmental review and project design process. We also understand that the plans are very preliminary, but that the Environmental Impact Report will include a thorough analysis of more detailed plans. Thank you for your consideration and we look forward to these matters being fully addressed in the Program EIR.

Respectfully,

  
Gary S. Weber

CC: Dennis Daze (Majestic Realty)

STATE OF CALIFORNIA - THE RESOURCES AGENCY

GRAY DAVIS, Governor

**DEPARTMENT OF FISH AND GAME**

South Coast Region  
4949 Viewridge Avenue  
San Diego, California 92123  
(858)467-4201  
(858)467-4235 FAX



May 16, 2002

Department of Transportation, District 7  
Division of Environmental Planning  
Attn.: Gary Iverson, Office Chief  
120 South Spring Street  
Los Angeles, CA 90012

**Comments on the Notice of Preparation of a Program Environmental Impact Report for  
proposed Third Main Track and Grade Separation Project on the Burlington  
Northern Santa Fe Railway Company East-West Mail line Railroad Track  
(SCH#2002041111)**

Dear Mr. Iverson:

The Department of Fish and Game (Department) appreciates this opportunity to comment on the above-referenced project, relative to impacts to biological resources. The Department is both a Trustee and Responsible Agency pursuant to the California Environmental Quality Act (CEQA), Sections 15386 and 15381 respectively. As a Trustee Agency, the Department must be consulted by the Lead Agency during the preparation and public review of CEQA documents. The Department is responsible for the conservation, protection, and management of the state's biological resources, including rare, threatened, and endangered plant and animal species pursuant to the California Endangered Species Act (CESA). The Department also administers the Natural Community Conservation Program (NCCP).

The proposed Program Environmental Impact Report (PEIR) by the Department of Transportation (DOT) would evaluate the potential significant environmental impacts that may result from improvements proposed along a 14.7 mile segment of the Burlington North Santa Fe (BNSF) Railway East-West Main Line from the City of Commerce south to the City of Fullerton. Track improvements include a new third main track, supporting infrastructure, and up to seven grade separations. The purpose of the third main track is to enhance efficiency of train movement along this corridor and ensure a reliable schedule for passenger train service, which is a key service for passenger rail customers. The purpose of the grade separations is to enhance safety and traffic flow on surface streets along this segment of the rail corridor.

The majority of the project alignment has been converted to an urban/suburban setting with few anticipated biological resources. However, the project does cross several water ways, including the San Gabriel River. The Initial Study identifies several potentially significant impacts to biological resources.

Department of Transportation  
May 16, 2002  
Page 2

In order for the Department to utilize the final document as a responsible agency, the alternatives must include those which avoid or otherwise minimize and mitigate impacts to sensitive biological resources that are regulated by Fish and Game Code. The discussion must include a range of reasonable and feasible alternatives, "even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly" (Section 15126.6 [b] of the CEQA Guidelines). The DOT must ensure that alternatives which would avoid, minimize, or mitigate impacts to biological resources are not precluded at the PEIR stage.

To enable Department staff to adequately review and comment on the proposed project, we recommend the following information be included; these issues can be addressed in the PEIR or in project specific EIRs, but should be included in the document that will allow for the most comprehensive discussion:

1. A complete description of the proposed improvements, including accessory projects such as utility relocations, staging areas, access routes, etc.
2. A complete list and assessment of the flora and fauna within and adjacent to the project area, with particular emphasis on identifying endangered, threatened, and candidate species, State Protected and Fully Protected species, California Species of Special Concern, and locally unique species and sensitive habitats.
  - a. A thorough assessment of rare plants and rare natural communities, following the Department's May 1984 Guidelines (revised August 1997) for Assessing Impacts to Rare Plants and Rare Natural Communities (Attachment 1).
  - b. A detailed discussion, including both qualitative and quantitative analyses, of the potentially affected species (fish, wildlife, plants), and their habitats, including information pertaining to their local status and distribution. The anticipated impacts of the project on these species and habitats should be fully addressed. Seasonal variations in use of the project area should also be addressed.
  - c. Focused species-specific surveys, conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable, are required. Acceptable species-specific survey procedures should be developed in consultation with the Department and the U.S. Fish and Wildlife Service.
  - d. Rare, threatened, and endangered species to be addressed should include all those which meet the California Environmental Quality Act definition (see CEQA Guidelines, Section 15380).

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May 16, 2002

Page 3

- e. The Department's California Natural Diversity Data Base in Sacramento should be contacted at (916) 324-3812 to obtain information on accessing records of previously reported sensitive species and habitats, including Significant Natural Areas identified under Division 2, Chapter 12 of the Fish and Game Code.
3. A thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources, with specific measures to offset such impacts should be included.
  - a. CEQA Guidelines, Section 15125(c), direct that knowledge of the regional setting is critical to an assessment of environmental impacts and that special emphasis should be placed on resources that are rare or unique to the region.
  - b. Project impacts should be analyzed relative to their effects on off-site habitats. Specifically, this should include nearby public lands, open space, adjacent natural habitats, and riparian ecosystems. Impacts to, and maintenance of, wildlife corridor/movement areas, including access to undisturbed habitat in adjacent areas should be fully evaluated and provided.
  - c. A discussion of potential conflicts resulting from wildlife-human interactions, potential adverse impacts from lighting, noise, vibration, human activity, changes in drainage patterns, polluted runoff, hazardous materials spills, soil erosion and/or sedimentation, with mitigation measures proposed to alleviate such impacts, must be included. Bird species, including those which are sensitive or listed as endangered or threatened pursuant to CESA, will often fly just above waterways. In most cases they will fly over bridges rather than under them. Bridge railings or fencing should be provided that will direct birds over the tops of trains.
  - d. If applicable, the document should include an analysis of the effect that the project may have on completion and implementation of regional and/or subregional conservation programs. Under Sections 2800-2840 of the Fish and Game Code, the Department, through the NCCP program, is coordinating with local jurisdictions, landowners, and the Federal Government to preserve local and regional biological diversity.
4. Mitigation measures for adverse project-related impacts to sensitive plants, animals, and habitats should be discussed. Mitigation measures should emphasize avoidance and where avoidance is infeasible, reduction of impacts. For unavoidable impacts, the selection of on-site or off-site restoration and/or enhancement, or habitat acquisition and preservation should be determined based on a thorough analysis of the context of each impact and how

Department of Transportation  
May 16, 2002  
Page 4

the proposed compensation measure(s) will completely mitigate for all lost habitat functions and values.

- a. The Department considers Rare Natural Communities as threatened habitats having both regional and local significance. Thus, these communities should be fully avoided and otherwise protected from project-related impacts (Attachment 2).
  - b. The Department generally does not support the use of relocation, salvage, and/or transplantation as mitigation for impacts to rare, threatened, or endangered species. Department studies have shown that these efforts are experimental in nature and largely unsuccessful.
  - c. Areas reserved as mitigation for project impacts must be conserved as habitat in perpetuity and should be protected from future direct and indirect impacts. Potential issues to be considered include limitation of access, conservation easements, monitoring and management programs, control of illegal dumping, water pollution, and fire.
  - d. Plans for restoration and revegetation should be prepared by persons with expertise in southern California ecosystems and native plant revegetation techniques. Each plan should include, at a minimum: 1) the location of the mitigation site; 2) the plant species to be used, container sizes, and seeding rates; 3) a schematic depicting the mitigation area; 4) planting schedule; 5) a description of the irrigation methodology; 6) measures to control exotic vegetation on site; 7) specific success criteria; 8) a detailed monitoring program; 9) contingency measures, should the success criteria not be met; and 10) identification of the party responsible for meeting the success criteria and providing for conservation of the mitigation site in perpetuity.
5. A California Endangered Species Act (CESA) Permit must be obtained, if the project has the potential to result in "take" of species of plants or animals listed under CESA, either during construction or over the life of the project. CESA Permits are issued to conserve, protect, enhance, and restore State-listed threatened or endangered species and their habitats. Early consultation is encouraged, as significant modification to a project and mitigation measures may be required in order to obtain a CESA Permit. Revisions to the Fish and Game Code, effective January 1998, may require that the Department issue a separate CEQA document for the issuance of a 2081 permit unless the project CEQA document addresses all project impacts to listed species and specifies a mitigation

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monitoring and reporting program that will meet the requirements of a 2081 permit. For these reasons, the following information is requested:

- a. An analysis and discussion demonstrating that: 1) each impact has been minimized and fully mitigated, 2) all mitigation measures are capable of successful implementation, and 3) adequate funding is ensured for implementation, and for monitoring compliance with, and effectiveness of, the mitigation measures.
  - b. The analysis of the impacts of the taking must include all impacts on the species that result from any act that would cause the proposed taking.
  - c. An evaluation of the impacts that includes a discussion of the potential to jeopardize the continued existence of the species. This shall include consideration of the species' capability to survive and reproduce, and any adverse impacts of the taking on those abilities in light of: 1) known population trends, 2) known threats to the species, and 3) reasonably foreseeable impacts on the species from other related projects and activities.
  - d. Biological mitigation monitoring and reporting proposals should be of sufficient detail and resolution to satisfy the requirements for a CESA Permit.
  - e. A Department-approved Mitigation Agreement and Mitigation Plan is required for plants listed as rare under the Native Plant Protection Act.
6. The Department cannot authorize take of Fully Protected Species. The DOT should identify the locations of these species and address how potential impacts will be avoided, including specific measures that will be implemented to ensure that take does not occur.
  7. The Department has responsibility for wetland and riparian habitats and opposes any alteration of a natural watercourse that would result in a reduction of wetland acreage or wetland habitat values. Alterations include, but are not limited to: conversion to subsurface drains, placement of fill or building of structures within the wetland and channelization or removal of materials from the streambed. All wetlands and watercourses, whether intermittent or perennial, should be retained and provided with substantial setbacks which preserve the riparian and aquatic values and maintain their value to on-site and off-site wildlife populations. Pollutants from runoff can also adversely impact habitat values and must be reduced to the greatest extent feasible before discharge into waterways.
    - a. A jurisdictional delineation of lakes, streams, and associated riparian habitats will be needed, including a wetland delineation pursuant to the United States Fish and

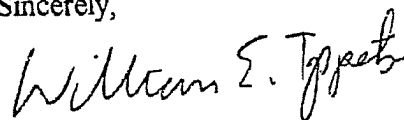
Department of Transportation  
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Wildlife Service definition (Cowardin 1979). Please note that wetland and riparian habitats subject to the Department's authority may extend beyond the jurisdictional limits of the U.S. Army Corps of Engineers.

- b. The Department may require a Lake or Streambed Alteration Agreement, pursuant to Section 1600 *et seq.* of the Fish and Game Code, prior to the commencement of any activity that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank (which may include associated riparian resources) of a river, stream or lake, or use material from a streambed. The Department's issuance of a Lake or Streambed Alteration Agreement for a project that is subject to CEQA will require CEQA compliance actions by the Department as a responsible agency. The Department as a responsible agency under CEQA, may consider the local jurisdiction's (lead agency) Negative Declaration or EIR for the project. To minimize additional requirements by the Department pursuant to Section 1600 *et seq.* and/or under CEQA, the document should fully identify the potential impacts to the lake, stream or riparian resources and provide adequate avoidance, mitigation, monitoring and reporting commitments for issuance of the agreement. A Streambed Alteration Agreement form may be obtained by writing to The Department of Fish and Game, 4949 Viewridge Avenue, San Diego, California 92123, by calling (858) 636-3160, or by accessing the Department's web site at [www.dfg.ca.gov/1600](http://www.dfg.ca.gov/1600).

Thank you for this opportunity to comment. Questions regarding this letter and further coordination on these issues should be directed to Pam Beare at (858) 467-4229.

Sincerely,



William E. Tippetts  
Environmental Program Manager

Attachments

cc: State Clearinghouse

File: Chron  
file: LOSSANrailNOP.wpd

Department of Transportation  
May 16, 2002  
Page 7

#### Literature Cited

Cowardin, Lewis M., V. Carter, G. C. Golet, and E. T. La Roe. 1979. Classification of wetlands and deepwater habitats of the United States. Fish and Wildlife Service, U.S. Department of the Interior. U. S. Government Printing Office, Washington, D. C.



# Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities

State of California  
THE RESOURCES AGENCY  
Department of Fish and Game  
December 9, 1983  
Revised May 8, 2000

The following recommendations are intended to help those who prepare and review environmental documents determine when a botanical survey is needed, who should be considered qualified to conduct such surveys, how field surveys should be conducted, and what information should be contained in the survey report. The Department may recommend that lead agencies not accept the results of surveys that are not conducted according to these guidelines.

1. Botanical surveys are conducted in order to determine the environmental effects of proposed projects on all rare, threatened, and endangered plants and plant communities. Rare, threatened, and endangered plants are not necessarily limited to those species which have been "listed" by state and federal agencies but should include any species that, based on all available data, can be shown to be rare, threatened, and/or endangered under the following definitions:

A species, subspecies, or variety of plant is "endangered" when the prospects of its survival and reproduction are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition, or disease. A plant is "threatened" when it is likely to become endangered in the foreseeable future in the absence of protection measures. A plant is "rare" when, although not presently threatened with extinction, the species, subspecies, or variety is found in such small numbers throughout its range that it may be endangered if its environment worsens.

Rare natural communities are those communities that are of highly limited distribution. These communities may or may not contain rare, threatened, or endangered species. The most current version of the California Natural Diversity Database's List of California Terrestrial Natural Communities may be used as a guide to the names and status of communities.

2. It is appropriate to conduct a botanical field survey to determine if, or to the extent that, rare, threatened, or endangered plants will be affected by a proposed project when:
  - a. Natural vegetation occurs on the site, it is unknown if rare, threatened, or endangered plants or habitats occur on the site, and the project has the potential for direct or indirect effects on vegetation; or
  - b. Rare plants have historically been identified on the project site, but adequate information for impact assessment is lacking.
3. Botanical consultants should possess the following qualifications:
  - a. Experience conducting floristic field surveys;
  - b. Knowledge of plant taxonomy and plant community ecology;
  - c. Familiarity with the plants of the area, including rare, threatened, and endangered species;
  - d. Familiarity with the appropriate state and federal statutes related to plants and plant collecting; and,
  - e. Experience with analyzing impacts of development on native plant species and communities.
4. Field surveys should be conducted in a manner that will locate any rare, threatened, or endangered species that may be present. Specifically, rare, threatened, or endangered plant surveys should be:
  - a. Conducted in the field at the proper time of year when rare, threatened, or endangered species are both evident and identifiable. Usually, this is when the plants are flowering.

## ATTACHMENT 2

Sensitivity of Top Priority Rare Natural  
Communities in Southern California\*

Sensitivity rankings are determined by the Department of Fish and Game, California Natural Diversity Data Base and based on either number of known occurrences (locations) and/or amount of habitat remaining (acreage). The three rankings used for these top priority rare natural communities are as follows:

- 1.- Less than 6 known locations and/or on less than 2,000 acres of habitat remaining
- 2.- Occurs in 6-20 known locations and/or 2,000-10,000 acres of habitat remaining
- 3.- Occurs in 21-100 known locations and/or 10,000-50,000 acres of habitat remaining

The number to the right of the decimal point after the ranking refers to the degree of threat posed to that natural community regardless of the ranking. For example:

S1.1 = very threatened  
 S2.2 = threatened  
 S3.3 = no current threats known

Sensitivity Rankings (February 1992)RankCommunity Name

1.1	Mojave Riparian Forest	Southern Dune Scrub
	Sonoran Cottonwood Willow Riparian	Southern Coastal Bluff Scrub
	Mesquite Bosque	Maritime Succulent Scrub
	Elephant Tree Woodland	Riversidean Alluvial Fan Sage Scrub
	Crucifixion Thorn Woodland	Southern Maritime Chaparral
	Allthorn Woodland	Valley Needlegrass Grassland
	Arizonan Woodland	Great Basin Grassland
	Southern California Walnut Forest	Mojave Desert Grassland
	Mainland Cherry Forest	Pebble Plains
	Southern Bishop Pine Forest	Southern Sedge Bog
	Torrey Pine Forest	Cismontane Alkali Marsh
	Desert Mountain White Fir Forest	



## COUNTY OF ORANGE

### PUBLIC FACILITIES & RESOURCES DEPARTMENT

Vicki L. Wilson, Director  
300 N. Flower Street  
Santa Ana, CA  
P.O. Box 4048  
Santa Ana, CA 92702-4048  
Telephone: (714) 834-2300  
Fax: (714) 834-5188

May 21, 2002

Gary Iverson, Office Chief  
Caltrans, Division of Environmental Planning  
P.O. Box 942873  
Sacramento, CA 94273-0001

SUBJECT: Third Main Track and Grade Separation Project on Burlington Northern  
Santa Fe Railway Company

Dear Mr. Iverson:

This is in response to your April 16, 2002 Notice of Preparation/Scoping Announcement (NOP) of the subject project. The following comments are provided:

1. The proposed Third Main Track and Grade Separation Project on the Burlington Northern Santa Fe Railway Company East-West Main Line Railroad Track as shown in the Initial Study attached to the NOP submittal crosses over several Orange County Flood Control District (OCFCD) facilities including the following:
  - a. Coyote Creek Channel (In City of Buena Park) (Facility No. A01)
  - b. Brea Creek Channel (Facility No. A02)
  - c. Fullerton Creek Channel (Facility No. A03)

The information provided in the Initial Study does not appear to include information on the Coyote Creek crossing located in the City of Buena Park. Impacts, if any, to Coyote Creek at this location are requested.

Drainage Facility Base maps that will assist in identifying and locating existing drainage facilities, and "as-built" drawings of existing OCFCD facilities are available from PFRD's Central Files located on the 2<sup>nd</sup> floor of our headquarters building at 300 N. Flower St., Room 210, Santa Ana, California, phone No. (714) 834-3568. It is recommended that the resources available with PFRD be used in assisting in identifying any impacted flood control and drainage facilities.

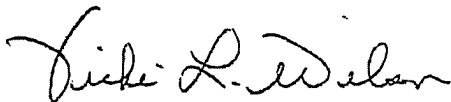
2. We request hydraulic conditions at OCFCD crossings not be adversely affected to worsen existing conditions as a result of the proposed project. Adverse impacts, if any, will need to be mitigated in consultation with PFRD's Flood Program Section.

Gary Iverson  
Page 2

3. Floodplains have been depicted by the Federal Emergency Management Agency (FEMA) along portions of the project. It is recommended that floodplain areas be identified and depicted on exhibits in the DEIR if your project requires structural improvements within the floodplain. When floodplain changes result as a consequence of the proposed project, it is recommended that FEMA floodplain regulations be followed, and Letters of Map Revision (LOMR) processed via FEMA to show the changes.
4. All work within County of Orange or OCFCD right-of-way will require permits from PFRD's Permits Section.

If you have any questions, you may call Mr. Sara Bavan at (714) 834-3181.

Sincerely,



Vicki L. Wilson  
Director

HIN:deb:D:\NumDocs\205161014.doc

cc: Michael M. Schumacher, Ph.D, CEO  
Kenneth R. Smith  
Herb Nakasone  
Sara Bavan



JAMES A. NOYES, Director

## COUNTY OF LOS ANGELES

### DEPARTMENT OF PUBLIC WORKS

900 SOUTH FREMONT AVENUE  
ALHAMBRA, CALIFORNIA 91803-1331  
Telephone: (626) 458-5100  
www.ladpw.org

ADDRESS ALL CORRESPONDENCE TO:  
P.O. BOX 1460  
ALHAMBRA, CALIFORNIA 91802-1460

June 12, 2002

IN REPLY PLEASE  
REFER TO FILE: WM-4

Mr. Gary Iverson  
Department of Transportation  
120 South Spring Street  
Los Angeles, CA 90012

Dear Mr. Iverson:

#### **RESPONSE TO AN INITIAL STUDY THIRD MAIN TRACKS AND SEVEN GRADE SEPARATION CITY OF LOS ANGELES**

Thank you for the opportunity to provide comments on the Initial Study for the proposed Third Main Tracks and Seven Grade Separation project. We have reviewed the submittal and offer the following comments:

#### Geotechnical and Materials Engineering

The proposed project will not have significant environmental effects from a geology and soils standpoint, provided the appropriate ordinances and codes are followed. Portions of the project are located within mapped potentially liquefiable areas, per the State of California Seismic Hazard Zone Map, Whittier Quadrangle. However, a liquefaction analysis is not warranted at this time. Detailed liquefaction analyses, conforming to the requirements of the State of California Division of Mines and Geology Special Publication 117, must be conducted at the tentative map and/or grading/building plan stages.

If you have any questions, please call Mr. Amir Alam at (626) 458-4925.

#### Traffic and Lighting

As requested, we have reviewed the subject document. The rail corridor extends from the City of Commerce (Hobart Station) about 14.7 miles south to the City of Fullerton (Basta Station).

Mr. Gary Iverson  
June 12, 2002  
Page 2

The primary improvements proposed are the immediate installation of a third main track over this 14.7 mile segment of main line track and the installation of up to seven grade separation projects. The goal of the proposed project is to improve the efficiency, capacity and safety along this segment of the rail corridor and to meet the anticipated future demand.

The California Department of Transportation (Caltrans) is the lead agency and will prepare a Program Environmental Impact Report (PEIR) that will evaluate the potential significant environmental impacts that may result from construction of the railroad track improvements and seven grade separations along this segment of the Burlington Northern Santa Fe Railway Company's East-West Main Line Railroad Track.

We welcome the opportunity and look forward to review of the PEIR upon its completion. The County's methodology should be used when evaluating the County and/or County/City/Caltrans intersections. A copy of our Traffic Impacts Analysis Report Guidelines is enclosed.

We recommend that Orange County and the Cities of Buena Park, Commerce, Fullerton, La Mirada, Montebello, Norwalk, Pico Rivera, and Santa Fe Springs review this document for any significant impacts/mitigation within their jurisdictions.

If you have any questions, please contact Mr. Patrick Arakawa of our Traffic Studies Section at (626) 300-4867.

#### Watershed Management

We have reviewed the subject Initial Study for the Burlington Northern Santa Fe Railway Company Triple Track and Grade Separation Project prepared for Caltrans. Based on our review, we have no objections to this project because it does not conflict with the goals of our Division. However, since this railway crosses over the San Gabriel River and the Coyote Creek and that two open channels have bike paths, the incorporation of enhancements (pocket parks, side slope beautification, etc.) along these bike paths should be considered.

If you have any questions regarding this matter, please contact Ms. Lucia Adams at (626) 458-5165.

Mr. Gary Iverson

June 12, 2002

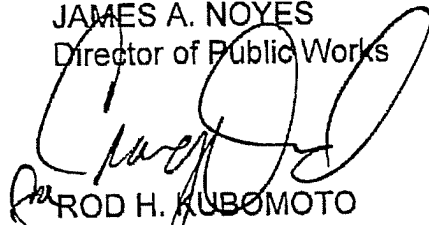
Page 3

The proposed project should include investigation of watershed management opportunities to maximize capture of local rainfall on the project site, eliminate incremental increase in flows to the storm drain system, and provide filtering of flows to capture contaminants originating from the project site.

If you have any questions regarding the above comments or the environmental review process of Public Works, please contact Ms. Massie Munroe at the above address or at (626) 458-4359.

Very truly yours,

JAMES A. NOYES  
Director of Public Works



ROD H. KUBOMOTO  
Assistant Deputy Director  
Watershed Management Division

MM:sv/kk  
C:\Drainage\Munroe\EIR12.wpd

Enc.

MAY 21 2002 9:07AM HP LASERJET 3200

p. 1

LOS ANGELES COUNTYLETTERGRAMTO: Craig David, Watershed Engring, Mapping, & Fema SectionFROM: Scott Schales, San Gabriel River WatershedDATE 5/6/02Subject: Initial Study for Burlington Santa Fe Railway Co. Triple Track/Grade Separation Project

We have reviewed the Initial Study for the Burlington Northern Santa Fe Railway Company Triple Track & Grade Separation Project prepared for Caltrans. Based on our review, we have no objections to this Project because it does not conflict with the goals of Watershed Management Division. However since this railway crosses over the San Gabriel River and the Coyote Creek and these two open channels have bikepaths, the incorporation of enhancements (pocket parks, side slope beautification, etc.) along these bikepaths should be considered.

If you have any questions regarding this matter, please contact Ms. Lucia Adams at (626) 458-5165.

*Signature*  
 Signed: SCOTT SCHALES, San Gabriel River Watershed, Watershed Management Division

Post-it <sup>®</sup> Fax Note	7671	Date	5-21-02	# of pages	4
To	Karen Cochran	From	Aisha Dennis		
Co./Dept.		Co.	WMD		
Phone #	(213) 997-0126	Phone #	(626) 458-4307		
Fax #	(213) 997-9572	Fax #	457-1826		



MAY 21 2002 9:07AM HP LASERJET 3200

p. 2

COUNTY OF LOS ANGELES  
DEPARTMENT OF PUBLIC WORKS  
GEOTECHNICAL AND MATERIALS ENGINEERING DIVISION

GEOTECHNICAL REVIEW OF  
ENVIRONMENTAL DOCUMENTS

PROJECT IDENTIFICATION Third Main Track and Grade Separation Project

LOCATION Commerce, La Mirada, Montebello, Norwalk, Pico Rivera, and Santa Fe Springs

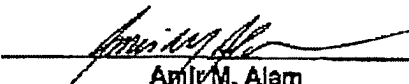
DATE RECEIVED 04/29/02

DATE COMPLETED 05/16/02

DATA REVIEWED Initial Study

- ☐ The proposed project will not have significant environmental effects from a geology and soils standpoint, provided the appropriate ordinances and codes are followed.
- ☐ Review of the Initial study/geotechnical report indicates that the proposed project will/will not have significant environmental effects from a geology and soils standpoint. See discussion.
- ☐ The environmental document is inadequate from a geology and soils standpoint. See discussion.
- ☒ Review of the environmental document indicates that the proposed project will not have significant environmental effects from a geology and soils standpoint, provided the appropriate ordinances and codes are followed. Portions of the project are located within mapped potentially liquefiable areas, per the State of California Seismic Hazard Zone Map, Whittier Quadrangle. However, a liquefaction analysis is not warranted at this time. Detailed liquefaction analyses, conforming to the requirements of the State of California Division of Mines and Geology "Special Publication 117", must be conducted at the Tentative Map and/or Grading/Building Plan stages.

DISCUSSION OF POTENTIALLY SIGNIFICANT EFFECTS AND/OR REPORT INADEQUACIES

  
\_\_\_\_\_  
Amy M. Alam  
Geotechnical Engineering Section

Original to: Watershed Management Division  
cc: Soils Review Section File  
Rev. 4/1/01  
P:\GMEPU\Soils Review\Env\Third main track\wpd

# **Traffic Impact Analysis Report Guidelines**



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January 1, 1997

Prepared by the County of Los Angeles  
Department of Public Works

**James A. Noyes**  
Director of Public Works

## I. Introduction

The County of Los Angeles Department of Public Works has established the following Guidelines for the preparation of Traffic Impact Analysis (TIA) reports. The purpose of these Guidelines is to establish procedures to ensure consistency of analysis and the adequacy of information presented and timely review by County staff. It is strongly recommended that the applicant's traffic engineer consult with County staff before beginning the study to establish the scope and basic assumptions of the study and any deviations from these Guidelines to avoid unnecessary delays or revisions. For assistance in the TIA scoping process, the Traffic and Lighting Division, Traffic Studies Unit, can be contacted at (626) 458-5909.

## II. Requirements

Generally, the Department staff is concerned with adverse impacts on traffic if:

1. Traffic generated by a project considered alone or cumulatively with other related projects, when added to existing traffic volumes, exceeds certain capacity thresholds of an intersection or roadway, contributes to an unacceptable level of service (LOS), or exacerbates an existing congested condition.
2. Project generated traffic interferes with the existing traffic flow (e.g., due to the location of access roads, driveways, and parking facilities).
3. Proposed access locations do not provide for adequate safety (e.g., due to limited visibility on curving roadways).
4. Nonresidential uses generate commuter or truck traffic through a residential area.
5. Project generated traffic significantly increases on a residential street and alters its residential character.

A traffic report must be prepared by a registered Civil or Traffic Engineer. A traffic report is generally needed if a project generates over 500 trips per day or where other possible adverse impacts as discussed in the Analysis and Impact Section (see page 4) of these Guidelines are identified. Before a full review is conducted, the County staff will check the completeness of the TIA report using the attached check list (Exhibit A). If the report is missing any of the check list items, it will be returned for revision.

Traffic Impact Analysis Guidelines  
Page 3

Existing daily directional and peak-hour through and turning traffic volumes on the roadways surrounding and/or logically associated with the project site, including Secondary and Major highways and freeways. Local streets affected by the project should also be shown. Each report shall include appendices providing count data used in the preparation of the report. The source and date of the traffic volume information shall be indicated. Count data should not be over one year old. Since peak volumes vary considerably, a ten percent daily variation is not uncommon, especially on recreational routes or roadways near shopping centers; therefore, representative peak-hour volumes are to be chosen carefully.

All assumed roadways and intersections or any other transportation circulation improvements must be identified and discussed. The discussion should include the scope and the status of the assumed improvements including the construction schedule and financing plan. It should be noted that all assumed roadways and intersections or any other transportation circulation improvements will be made a condition of approval for the project to be in place prior to the issuance of building permits. If assumed improvements do not get built on time due to an unforeseeable condition, traffic conditions for a different assumed highway network or other mitigation measures will be considered if a traffic study is submitted with a different assumed network or other measures are recommended to mitigate the traffic impact in question.

**C. Analysis and Impact**

The following information is required:

**1. Trip Generation Analysis**

Tabulate the estimated number of daily trips and a.m. and p.m. peak-hour trips generated by the proposed project entering and exiting the site. Trip generation factors and source are to be included. The trip generation rates contained in the latest edition of the Institute of Transportation Engineers Trip Generation manual should generally be used, except in the case of condominiums/townhomes when the following rates should be used per unit:

Traffic Impact Analysis Guidelines  
Page 5

The County of Los Angeles Department of Regional Planning (DRP) and other public agencies (if necessary) should be contacted to obtain the latest listings. A table and a map showing the status, project/zone change/conditional use permit/parcel map/tract number, and the location of each project must be provided. For a computer printout of the listing of all filed projects within the County, Land Development Management Section of the DRP, at (213) 974-6481 can be contacted.

#### 4. LOS Analysis

If it appears that the project's generated traffic alone or together with other projects in the area could worsen the LOS of an intersection or roadway, a "before" and "after" LOS analysis is necessary. The Intersection Capacity Utilization (ICU) or Critical Movement Analysis are two methods often used to assess existing and future LOS at intersections.

If the ICU planning method is used, a maximum of 1,600 vehicles per hour per lane should be used (2,880 vehicles per hour should be used for dual left-turn lanes) and a ten percent yellow clearance cycle should be included. Intersection LOS analysis and calculation work sheets, as well as diagrams showing turning volumes shall be included in the report for the following traffic conditions.

- (a) Existing traffic;
- (b) Existing traffic plus ambient growth to the year the project will be completed (preproject);
- (c) Traffic in (b) plus project traffic;
- (d) Traffic in (c) with the proposed mitigation measures (if necessary);
- (e) Traffic in (c) plus the cumulative traffic of other known developments; and
- (f) Traffic in (e) with the proposed mitigation measures (if necessary).

The project's impact on two-lane roadways should also be analyzed for all of the above traffic conditions if those two-lane roadways are used for access. LOS service analysis contained in the Highway Capacity Analysis, Chapter 8, Two-Lane Highways, should be used to evaluate the project's impact. For simplified analysis, use the established significant impact thresholds for two-lane roadways as shown on page 7.

Traffic Impact Analysis Guidelines  
Page 7

## **6. Analysis Discussion**

Discuss conclusions regarding the adverse impacts caused by the proposed project on the roadway system. If the cumulative traffic impact of this and other projects require mitigation measures, such as traffic signals, then estimate the percent share using the project percent share formula given in the Section III D of the TIA Guidelines. When the proposed project and other nearby developments are expected to significantly impact adjacent roadways, the developer may be required to enter into a secured agreement to contribute to a benefit district to fund major roadway and bridge improvements in the region. Also, for all recommendations to increase the number of travel lanes on a street or at an intersection as a mitigation measure, the report must clearly identify the impacts associated with such a change such as whether or not additional right of way will be required and whether it is feasible to acquire the right of way based on the level of development of the adjacent land and buildings (if any).

Discuss other possible adverse impacts on traffic. Examples of these are: (1) the limited visibility of access points on curved roadways; (2) the need for pavement widening to provide left-turn and right-turn lanes at access points into the proposed project; (3) the impact of increased traffic volumes on local residential streets; and (4) the need for road realignment to improve sight distance.

Projects which propose to amend the County's General Plan Land Use and substantially increase potential traffic generation must provide an analysis of the project at current planned land use versus proposed land use in the build out condition for the project area. The purpose of such analysis is to provide decision makers with the understanding of the planned circulation network's ability to accommodate additional traffic generation caused by the proposed General Plan Land Use amendments.

### **D. Traffic Models and Model Generated TIA's**

Computerized traffic models are planning tools used to develop future traffic projections based on development growth patterns. The Department currently operates two traffic models, one for the Santa Clarita Valley and another for the Ventura Corridor area. The Department can test proposed development project traffic impacts for the public in these areas for a fee. For assistance in the traffic modeling, the Planning Division, Transportation Planning/Assessments Section, can be contacted at (626) 458-4351.

## Traffic Impact Analysis Guidelines

### Page 9

The project percent share should be based on the peak-hour volumes that warrant signals. If both peak hours satisfy the installation of signals, the average of the two peak-hour volumes should be used in the percent share analysis.

## **F. Mitigation Measures**

The following information is required.

Identify feasible mitigation measures which would mitigate the project and/or other related projects' significant impacts to a level of insignificance. Also, identify those mitigation measures which will be implemented by others. Those mitigation measures that are assumed to be implemented by others will be made a condition of approval for the project to be in place prior to issuance of building permits. Mitigation measures may include, but are not limited to, the following:

### **1. Traffic Engineering Techniques.**

- a. Locate access points to optimize visibility and reduce potential conflict.
- b. Design parking facilities to avoid queuing into public streets during peak arrival periods.
- c. Provide additional off-street parking.
- d. Dedicate visibility easements to assure adequate sight distance at intersections and driveways.
- e. Signalize or modify traffic signals at intersections.
- f. Install left-turn phasing and/or multiple turning lanes to accommodate particularly heavy turning movements.
- g. Widen the pavement to provide left- or right-turn lanes to lessen the interference with the traffic flow.<sup>1</sup>
- h. Widen intersection approaches to provide additional capacity.
- i. Prohibit left turns to and from the proposed development.
- j. Restrict on-street parking during peak hours to increase street capacity.<sup>1</sup>

### **2. Contribute to a benefit district to fund major capital improvements**

<sup>1</sup>

Physical roadway improvements to improve capacity should be considered before considering parking restrictions.

## Traffic Impact Analysis Guidelines

### Page 11

The geographic area examined in the TIA must include the following, at a minimum.

- All CMP arterial monitoring intersections (see Exhibit B of the Guidelines), including freeway on- or off-ramp intersections, where the proposed project will add 50 or more trips during either the a.m. or p.m. peak hours.
- Main line freeway monitoring locations (see Exhibit C of the Guidelines) where the project will add 150 or more trips, in either direction, during the a.m. or p.m. weekday peak hours.
- Caltrans must also be consulted to identify other specific locations to be analyzed on the State highway system.

If, based on these criteria, the TIA identifies no facilities for study, no further traffic analysis is required.

JHC:ce  
T-2/ACCESS  
(01/07/99)

Attach.





MAJESTIC MANAGEMENT CO.

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13191 Crossroads Parkway North, Suite 115 • City of Industry, CA 91746-3497  
Office (562) 692-9581 • FAX (562) 695-0441

June 17, 2002

California Department of Transportation  
Division of Environmental Planning  
Attn: Gary Iverson, Office Chief  
120 South Spring Street  
Los Angeles, CA 90012

Re: Notice of Preparation and Initial Study for the Grade Separation and  
Burlington Northern-Santa Fe Railway Company Rail Project at Valley View and  
Marquardt

Dear Mr. Iverson:

As agent for the owner of the buildings adjacent to the grade separations, specifically 14950-52 Valley View, 14209-11 Gannet Street, and 13833 Borate Street, we have contracted with Gary Weber of Weber Consulting to assist us with the analysis of this project. After his review, we remain concerned about the effects of this project on our properties. For example, at the Valley View property we are very concerned about the ingress and egress to this property during and after construction; the use of our property as access to an adjacent property; and the financial impact to this property during and after construction of the grade separation.

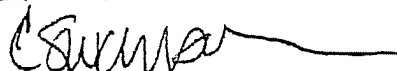
With this letter, we respectfully request that you include the following address for all notifications on this project.

Dennis Daze  
Vice President  
Majestic Management Co.  
13191 Crossroads Parkway North, Suite 115  
City of Industry, CA 91746-3497

Thank you for taking all of our concerns into consideration prior to authorizing this plan. Should you have any questions or require further information regarding any of the above items, please contact me at (562) 948-4351.

Sincerely,

MAJESTIC MANAGEMENT CO.

  
Cindy Swanson  
Property Manager

Cc: Dennis Daze  
Carl Amendola



Southern California Gas Company  
Technical Services Department  
1919 South State College Blvd.  
Anaheim, California 92806

A  Sempra Energy<sup>®</sup> utility

July 11, 2002

Department of Transportation  
Environmental Planning  
120 South Spring Street  
Los Angeles, CA 90012

Attention: Garry Iverson, Office Chief

**Subject: Notice of Preparation for Third Main Track & Grade Separation Project on the Burlington Northern Santa Fe Railway Company East-West Main Line Railroad Track**

This letter is not to be interpreted as a contractual commitment to serve the proposed project but only as an information service. Its intent is to notify you that the Southern California Gas Company has facilities in the area where the above named project is proposed. Gas service to the project could be served by an existing main without any significant impact on the environment. The service would be in accordance with the company's policies and extension rules on file with the California Public Utilities Commission at the time contractual arrangements are made.

The availability of natural gas service, as set forth in this letter, is based upon present conditions of gas supply and regulatory policies. As a public utility, the Southern California Gas Company is under the jurisdiction of the California Public Utilities Commission. We can also be affected by actions of gas supply or the condition under which service is available, gas service will be provided in accordance with revised conditions.

Estimates of gas usage for non-residential projects are developed on an individual basis and are obtained from the Commercial-Industrial/Residential Market Services Staff by calling (800) 427-2000. We have developed several programs which are available upon request to provide assistance in selecting the most energy efficient appliances or systems for a particular project. If you desire further information on any of our energy conservation programs, please contact this office for assistance.

Sincerely,

Carey Downs  
Technical Supervisor  
West Region

CD/mm  
CC: City of Santa Fe Springs, Pico Rivera & La Mirada  
eir.doc





# CITY OF BUENA PARK

## DEPARTMENT OF COMMUNITY DEVELOPMENT

Rick Warsinski, Director

April 18, 2003

Tom Dodson  
Tom Dodson & Associates  
2150 North Arrowhead Avenue  
San Bernardino, California 92405

SUBJECT: DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT  
FOR THE THIRD MAIN TRACK AND GRADE SEPARATION  
PROJECT ON THE BURLINGTON NORTHERN SANTA FE  
RAILWAY COMPANY EAST-WEST MAIN RAILROAD  
TRACK

Dear Mr. Dodson:

Thank you for the previous opportunity to review an early version of the screencheck for the document referenced above. In our response letter, we requested that additional information be included in the final Program Environmental Impact Report. Although the Draft partially addresses these comments, we remain concerned about the impact of the project on adjacent residences.

Although the study is based on the assumption that the project will not directly increase rail traffic, the City continues to have concerns regarding placement of the third track along the north side of the existing Right of Way between Dale Street and the eastern city border, adjacent to sensitive residential development. Our concern is that the project includes purchasing part of an easement and placing the new track closer to existing homes. In general, Staff requests that analysis be included within the document about rail traffic effects on residents living near this area with respect to noise, as well as any corresponding mitigation attributable to the project.

In addition, the City of Buena Park Planning Division suggests the following:

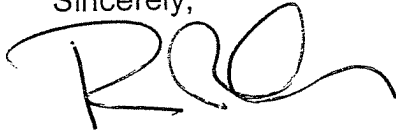
- Detailed graphics be provided within the document clarifying the precise track locations, including easements, buffers/ walls, and distances from the nearest residential property line.

Tom Dodson  
Tom Dodson & Associates  
April 18, 2003  
Page 2

- Site specific noise studies for the area between Beach Blvd. and the eastern City border. Because the most recent noise studies in the area (Lakeside Environmental Impact Report 1997) indicate that the noise readings adjacent to the existing tracks are at or within one half decibel of the maximum ambient noise level for residential developments, we feel that the predicted noise increase may exceed the maximum allowable noise levels.

We look forward to reviewing the final document and thank you for your time and consideration. Please feel free to call me or Jay Saltzberg, Planning Manager, if you have any questions or concerns regarding this request.

Sincerely,

A handwritten signature in black ink, appearing to read 'RW' followed by a stylized flourish.

Rick Warsinski  
Director of Community Development



Gray Davis  
Governor

STATE OF CALIFORNIA  
Governor's Office of Planning and Research  
State Clearinghouse



Tal Finney  
Interim Director

**ACKNOWLEDGEMENT OF RECEIPT**

DATE: April 10, 2003

TO: Gary Iverson  
Department of Transportation, District 7  
120 South Spring Street  
Los Angeles, CA 90012

RE: Third Main Track and Seven Grade Separations Project, BNSF  
SCH#: 2002041111

This is to acknowledge that the State Clearinghouse has received your environmental document for state review. The review period assigned by the State Clearinghouse is:

Review Start Date: April 4, 2003  
Review End Date: May 19, 2003

We have distributed your document to the following agencies and departments:

Air Resources Board, Transportation Projects  
California Highway Patrol  
Caltrans, Division of Aeronautics  
Department of Conservation  
Department of Fish and Game, Region 5  
Department of Housing and Community Development  
Department of Parks and Recreation  
Department of Toxic Substances Control  
Native American Heritage Commission  
Office of Historic Preservation  
Public Utilities Commission  
Regional Water Quality Control Board, Region 8  
Resources Agency  
State Lands Commission  
State Water Resources Control Board, Division of Water Quality

The State Clearinghouse will provide a closing letter with any state agency comments to your attention on the date following the close of the review period.

Thank you for your participation in the State Clearinghouse review process.



## FULLERTON REDEVELOPMENT AGENCY

303 W. Commonwealth Avenue, Fullerton, CA 92832-1775

Website: [www.ci.fullerton.ca.us](http://www.ci.fullerton.ca.us)

Telephone • (714) 738-6877

Fax • (714) 738-6843

April 24, 2003

Mr. Gary Iverson, Office Chief  
California Department of Transportation  
District 7  
120 S. Spring Street, MS 16A  
Los Angeles, CA 90012

Dear Mr. Iverson:

We have reviewed the Draft Environmental Impact Report (DEIR) for the Third Main Track and Grade Separation Project, SCH2002041111. The comments from the City of Fullerton are as follows:

1. The project ends at Basta in Fullerton. Figures 3-2f and 3-2g give the impression that the project extends through Fullerton to State College Blvd. Please note the location of the end limit of the project on Figure 3-2f.
2. The discussion of Hydrology and Drainage does not indicate how the current drainage problems on the south side of the railroad right-of-way extending approximately 2,500 feet east from Dale Street will be solved. The project itself may solve the problem or it may increase the problem.

Currently, there is an earthen channel within the railroad right-of-way which is inadequate to handle drainage. Adjacent properties on the south have, in the past, suffered flooding of both property and buildings. If the channel is eliminated to elevate the new third track, there will be no place for runoff to go, since the properties in this area drain to the north. If the channel will remain because there is sufficient room for the third track, the problem will still exist.

The project should include any improvements to assure proper drainage of this area. Proposed solutions should be submitted to the City Engineer, City of Fullerton, at the above address, for review.

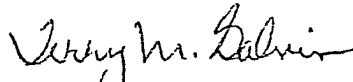
3. While the DEIR is entitled Third Main Track and Grade Separation Project, it is clearly stated that no funding is available for the grade separations. It would appear that grade separations are a key mitigating factor in reducing traffic congestion and air pollution on the affected local streets and highways. A grade separation funding plan and construction schedule should be included with the approval of this project.



Mr. Gary Iverson, Office Chief  
April 24, 2003, Page 2

Thank you for the opportunity to submit our comments. If you have any questions, please call me at (714) 738-6881.

Sincerely,

A handwritten signature in black ink, appearing to read "Terry M. Galvin". The signature is fluid and cursive, with the first name "Terry" being more prominent.

Terry M. Galvin  
Redevelopment Operations Manager

mp

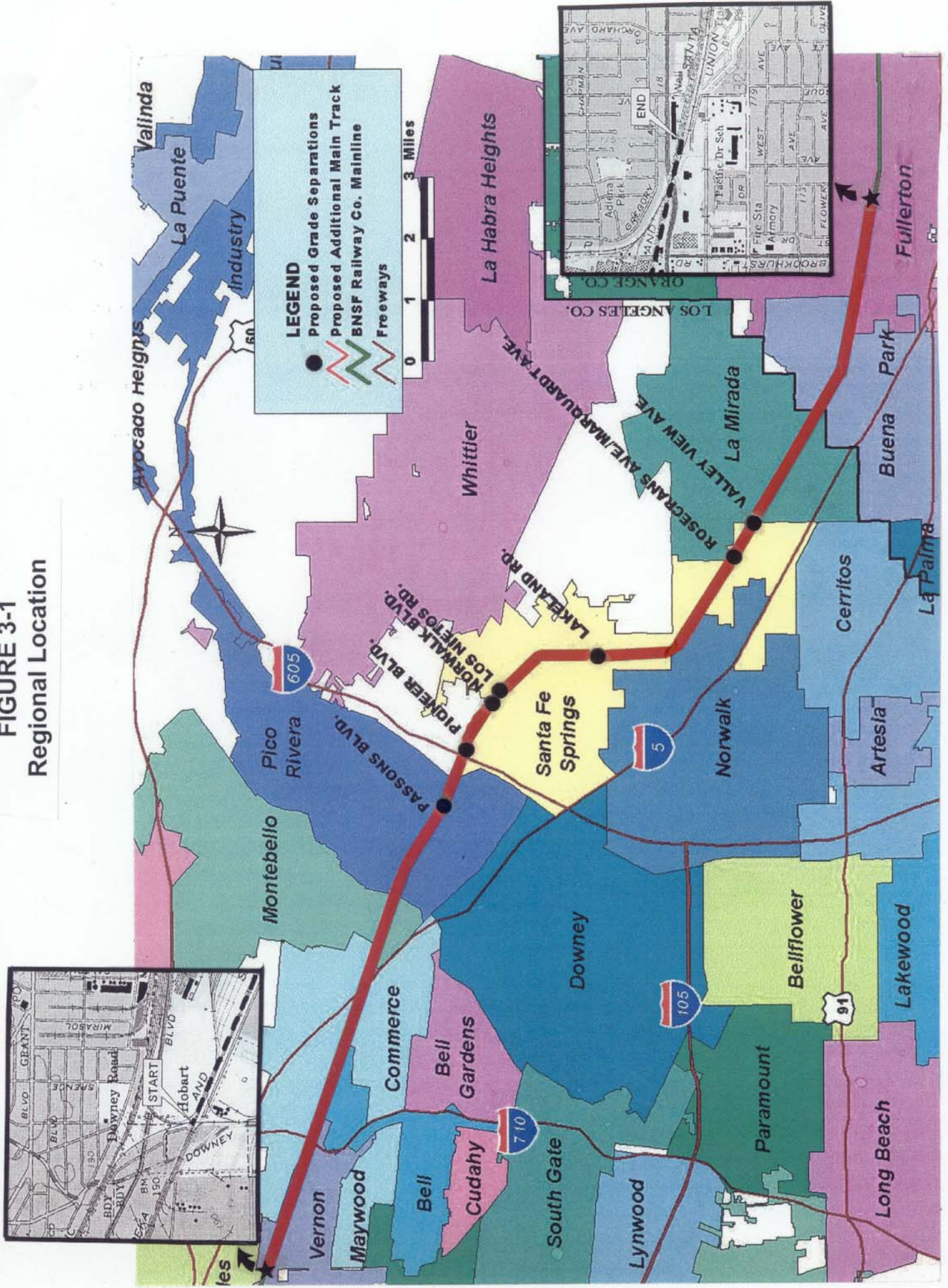
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**ATTACHMENT 2**

**NEW DRAWINGS FOR  
VALLEY VIEW**



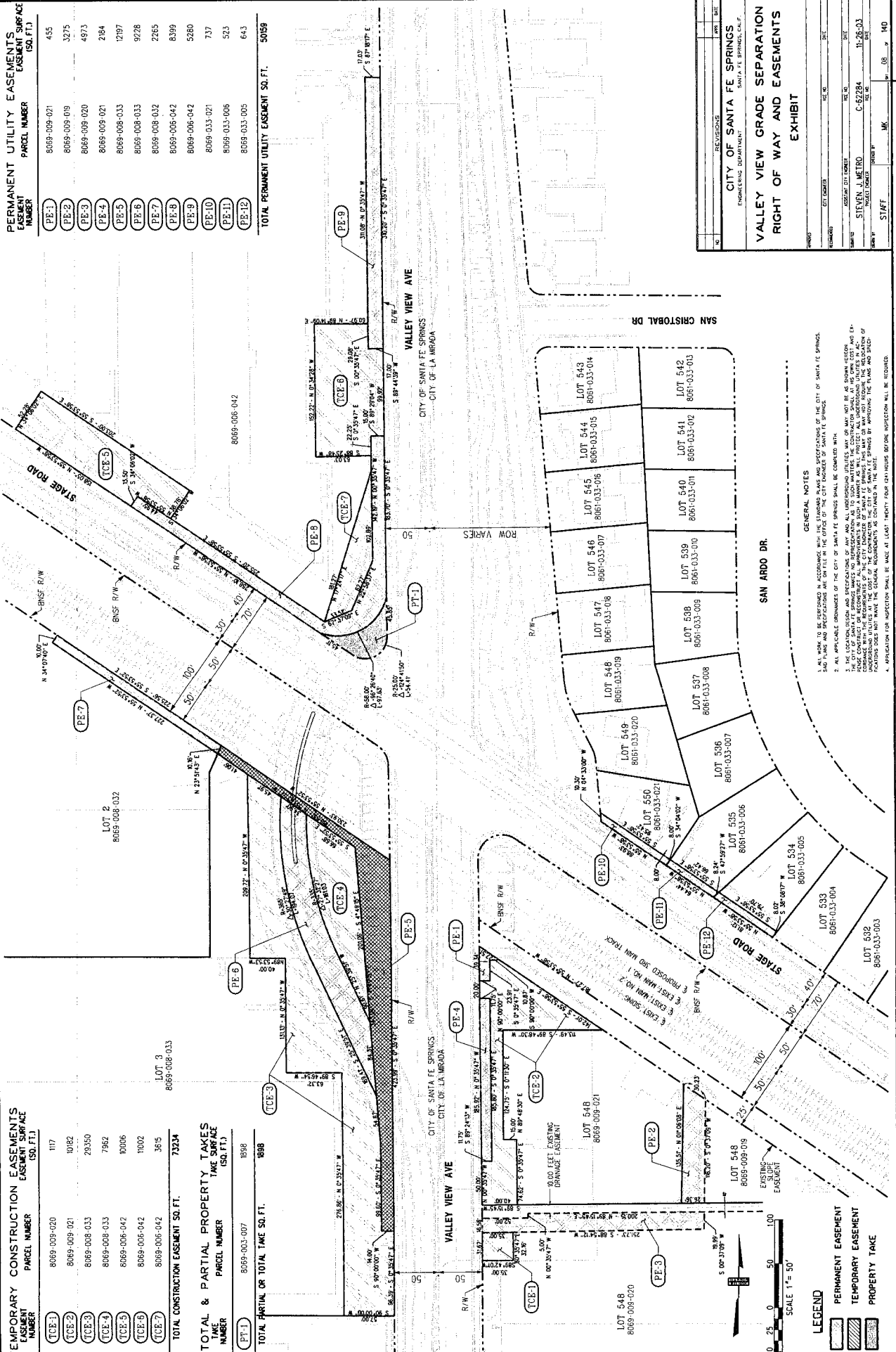
**FIGURE 3-1**  
Regional Location



TEMPORARY EASEMENT NUMBER	CONSTRUCTION EASEMENTS EASEMENT NUMBER	CONSTRUCTION EASEMENTS EASEMENT NUMBER	CONSTRUCTION EASEMENTS EASEMENT NUMBER
TCE-1	8069-009-020	1117	
TCE-2	8069-009-021	1082	
TCE-3	8069-008-033	29350	
TCE-4	8069-008-033	7962	
TCE-5	8069-008-042	10006	
TCE-6	8069-008-042	11002	
TCE-7	8069-008-042	3615	
TOTAL CONSTRUCTION EASEMENT SQ. FT.		73234	

TOTAL & PARTIAL PROPERTY TAXES TIME	PARCEL NUMBER	TIME
TIME	PARCEL NUMBER	TIME
PT-1	8069-033-007	898
TOTAL PARTIAL OR TOTAL TIME SQ. FT.		988

PERMANENT UTILITY EASEMENTS EASEMENT NUMBER	PARCEL NUMBER	EASEMENT SURFACE (SQ. FT.)
PE-1	8069-009-021	453
PE-2	8069-009-019	3275
PE-3	8069-009-020	4973
PE-4	8069-009-021	284
PE-5	8069-008-033	1297
PE-6	8069-008-033	9228
PE-7	8069-008-032	2265
PE-8	8069-008-042	8399
PE-9	8069-033-021	5280
PE-10	8069-033-008	737
PE-11	8069-033-005	523
PE-12	8069-033-005	643
TOTAL PERMANENT UTILITY EASEMENT SQ. FT.		50159

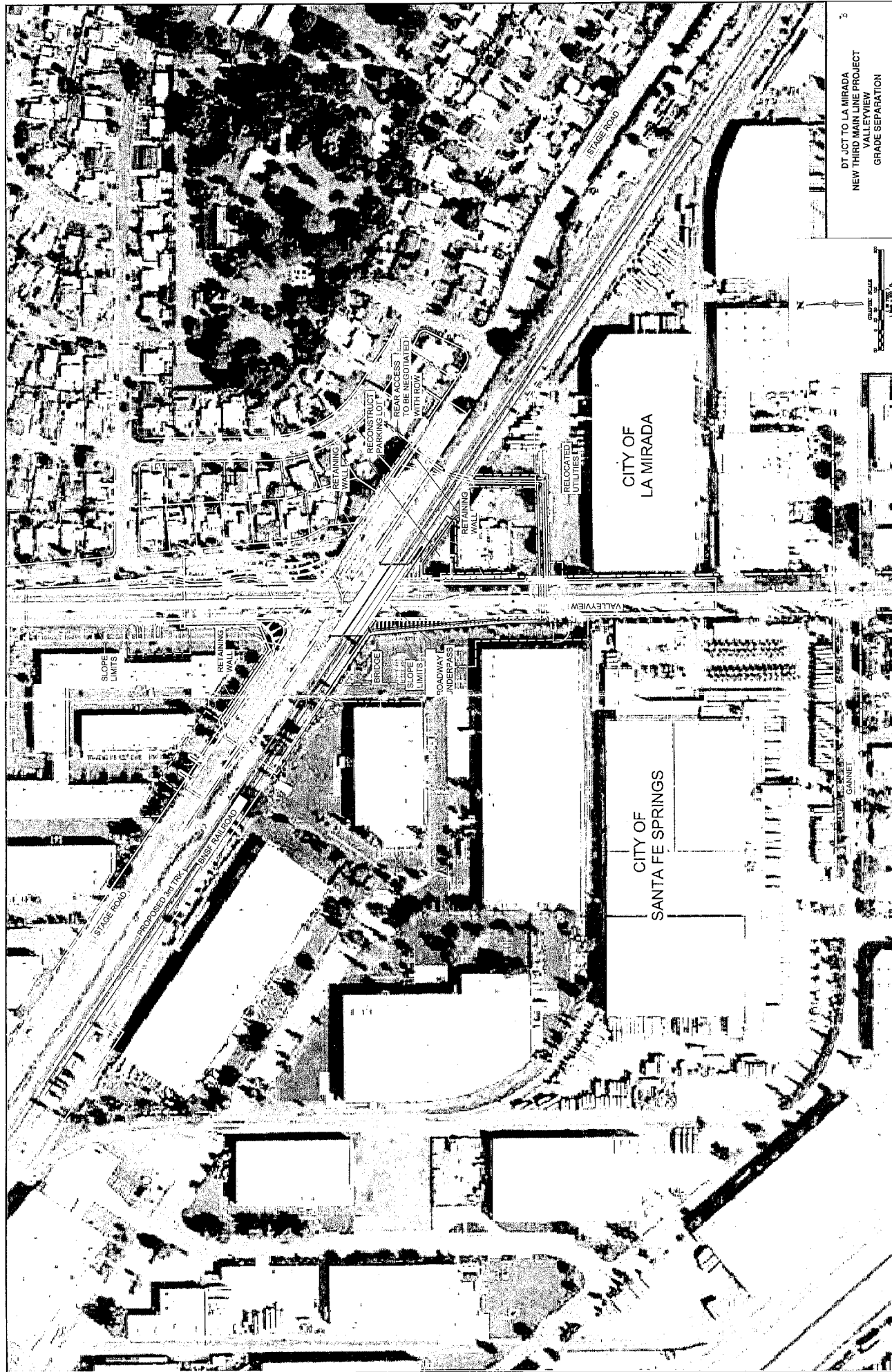


**GENERAL NOTES**

1. ALL WORK TO BE PERFORMED IN ACCORDANCE WITH THE STANDARD PLANS AND SPECIFICATIONS OF THE CITY OF SANTA FE SPRINGS.
2. ALL APPLICABLE ORDINANCES OF THE CITY OF SANTA FE SPRINGS SHALL BE COMPLIED WITH.
3. THE LOCATION, DESIGN AND SPECIFICATIONS OF ANY AND ALL UNDERGROUND UTILITIES SHOWN ON THIS MAP MAY NOT BE AS SHOWN HEREON. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL UTILITIES IN THE PROJECT AREA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE CITY OF SANTA FE SPRINGS PRIOR TO CONSTRUCTION.
4. EROSION CONTROL MEASURES SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION. EROSION CONTROL MEASURES SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.

CITY OF SANTA FE SPRINGS	
ENGINEERING DEPARTMENT	
PROJECT NUMBER: C-67284	
DESIGNED BY: STEVEN J. METRO	CHECKED BY: C-67284
DRAWN BY: STEVEN J. METRO	CHECKED BY: C-67284
DATE: 11-26-03	DATE: 11-26-03
STAFF: JMK	STAFF: JMK
DATE: 08	DATE: 140

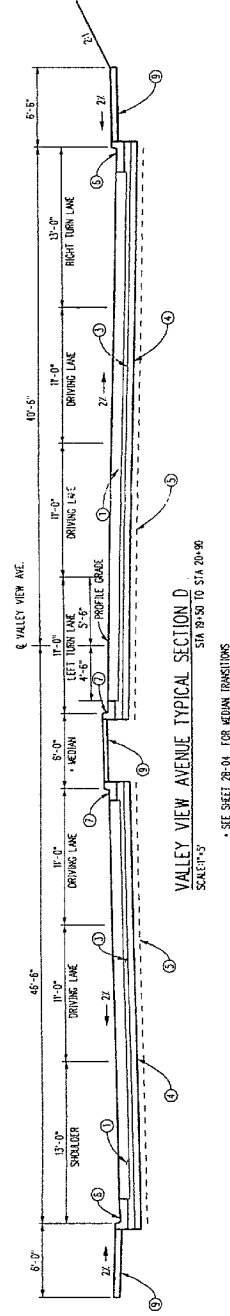
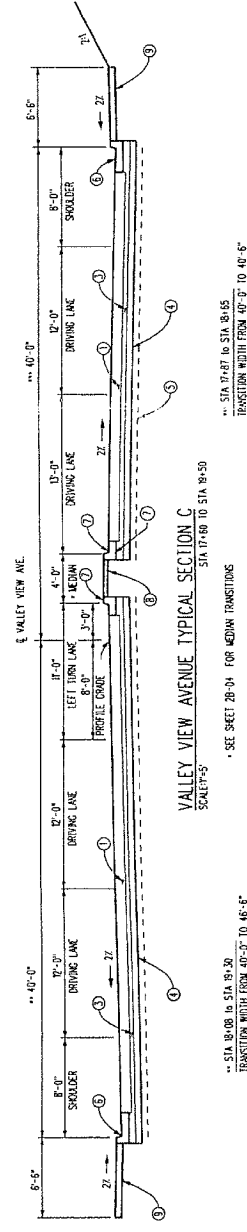
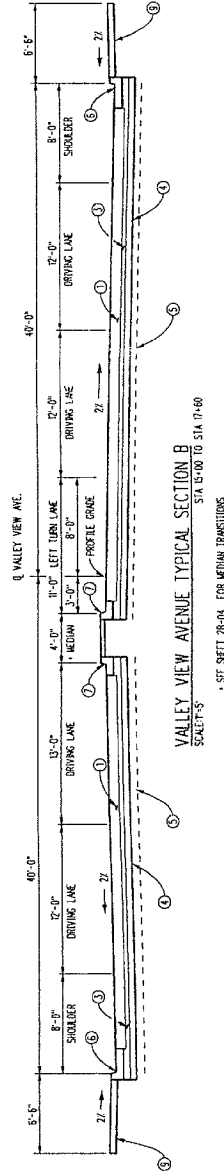
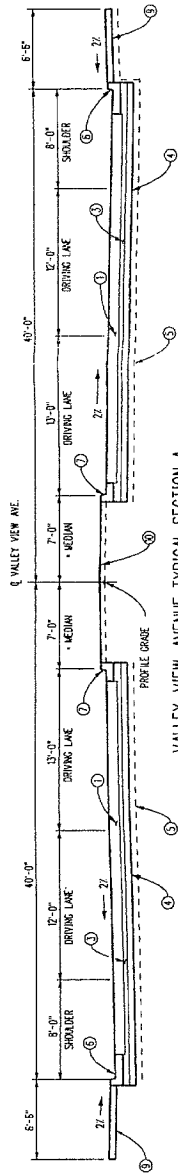




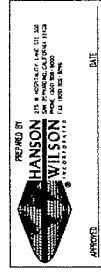
DT JCT TO LA MIRADA  
NEW THIRD RAIL LINE PROJECT  
VALLEYVIEW  
GRADE SEPARATION

# CONSTRUCTION NOTES

- 1" THICK ASPHALT CEMENT PAVEMENT
- 1" THICK PCC PAVEMENT
- 4" ASPHALT TREATED PERMEABLE BASE
- 6" CLASS II AGGREGATE BASE
- SOAKBY AND RECOMPACT EXISTING SOIL 6" BELOW SUBGRADE TO 95% RELATIVE DRY DENSITY.
- TYPE 45 COR AND OUTER PER CITY OF SANTA FE SPRINGS STD DWG R-7
- TYPE B2 CURB AND OUTER PER CITY OF SANTA FE SPRINGS STD DWG R-7
- 4" THICK PCC MEDIAN
- 4" THICK PCC SIDEWALK
- LANDSCAPE MEDIAN



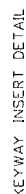
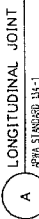
- ## GENERAL NOTES
1. ALL WORK TO BE ACCORDANCE WITH THE STANDARD PLANS AND SPECIFICATIONS OF THE CITY OF SANTA FE SPRINGS.
  2. ALL MATERIALS AND SPECIFICATIONS ARE TO BE IN THE OFFICE OF THE CITY ENGINEER OF SANTA FE SPRINGS.
  3. THE LOCATION AND SPECIFICATIONS OF ALL AND ALL UNDESIGNED FEATURES ARE TO BE AS SHOWN HEREON.
  4. THE LOCATION AND SPECIFICATIONS OF ALL AND ALL UNDESIGNED FEATURES ARE TO BE AS SHOWN HEREON.
  5. THE LOCATION AND SPECIFICATIONS OF ALL AND ALL UNDESIGNED FEATURES ARE TO BE AS SHOWN HEREON.
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  8. THE LOCATION AND SPECIFICATIONS OF ALL AND ALL UNDESIGNED FEATURES ARE TO BE AS SHOWN HEREON.
  9. THE LOCATION AND SPECIFICATIONS OF ALL AND ALL UNDESIGNED FEATURES ARE TO BE AS SHOWN HEREON.
  10. THE LOCATION AND SPECIFICATIONS OF ALL AND ALL UNDESIGNED FEATURES ARE TO BE AS SHOWN HEREON.



CITY OF SANTA FE SPRINGS	
ENGINEERING DEPARTMENT	
VALLEY VIEW GRADE SEPARATION	
TYPICAL SECTIONS 1 OF 3	
VALLEY VIEW AVENUE	
PROJECT NO.	28-04
DATE	05-23-03
DESIGNED BY	STEVEN J. LINDO
CHECKED BY	DATE
APPROVED BY	DATE
STAFF	10



- 1) 6" THICK ASPHALT CEMENT PAVEMENT
- 2) 4" THICK PCC PAVEMENT
- 3) 4" ASPHALT TREATED PORTLAND CEMENT BASE
- 4) 6" CLASS II AGGREGATE BASE
- 5) CURB AND RETAINING EXISTING 50% TO 55% RELATIVE RIGIDITY
- 6) TYPE 4 CURB AND GUTTER PER CITY OF CHICAGO SDC DMC 7-7
- 7) TYPE 4B CURB AND GUTTER PER CITY OF CHICAGO SDC DMC 7-7
- 8) 4" THICK PCC MEDIAN
- 9) 4" THICK PCC SIDEWALK
- 10) LANDSCAPE MEDIAN
- 11) CONSTRUCT 4" PERSONAL AIPS UNDER AND CONNECT TO CURB JALTS TO DRAIN
- 12) TIE IN PARALLEL UNDER PCC PAVEMENT



GENERAL NOTES

ALL WORK TO BE PERFORMED IN ACCORDANCE WITH THE STANDARD PLANS AND SPECIFICATIONS OF THE CITY OF SANTA FE SPRINGS.

SAND HOGS AND SPECIFICATIONS ARE ON FILE IN THE OFFICE OF THE CITY ENGINEER OF SANTA FE SPRINGS

3. ALL APPLICABLE ORDINANCES OF THE CITY OF SANTA FE SPRINGS SHALL BE COMPLIED WITH.

[illegible][illegible]

INFORMATION DOES NOT MEET THE GENERAL REQUIREMENTS AS CONTAINED IN THE NOTE.

LIBRARY OF THE UNIVERSITY OF TORONTO  
130 St. George Street, 4th Floor  
Toronto, Ontario M5S 1A5  
Canada

[illegible]

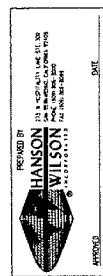


# CONSTRUCTION NOTES

1. ESTABLISH C OF CONSTRUCTION BASED ON INFORMATION SHOWN HEREON AND SHEET 2B-05.
2. PLACE 10" TO 4" AT 10' AND 5' AGGREGATE BASE COURSE.
3. CONSTRUCT CURB AND GUTTER TYPE AS PER CITY OF SANTA FE SPRINGS STD DRAWINGS PLAN NO. R-7.
4. CONSTRUCT MEDIAN CURB AND GUTTER TYPE AS PER CITY OF SANTA FE SPRINGS STD DRAWINGS PLAN NO. R-7.
5. CONSTRUCT BASED AGGREGATE PER DETAILS IN SHEET 2B-04 AND UNLESS OTHERWISE NOTED.
6. CONSTRUCT FCC SLOPES PER CITY OF SANTA FE SPRINGS STD DRAWING R-2.2.2.2 AND TYPICAL SECTION.
7. CONSTRUCT SLOPE 2:1 SEE CROSS SECTION.
8. CONSTRUCT CONCRETE DRIVEWAY PER CITY OF SANTA FE SPRINGS STD PLAN NO. R-2.2 AND DRIVEWAY GRADING DETAIL IN SHEET 2B-04.
9. CONSTRUCT WHEELCHAIR BUMP PER CALIFORNIA STD PLAN ASP. ABB.
10. PLACE 10" PCC PARALLEL ON 4" AT 10' AND 5' AGGREGATE BASE COURSE.
11. REGRADE PARKING LOT SEE DRAWING 2B-03.
12. CONSTRUCT RETAINING WALL SEE SECTION B.

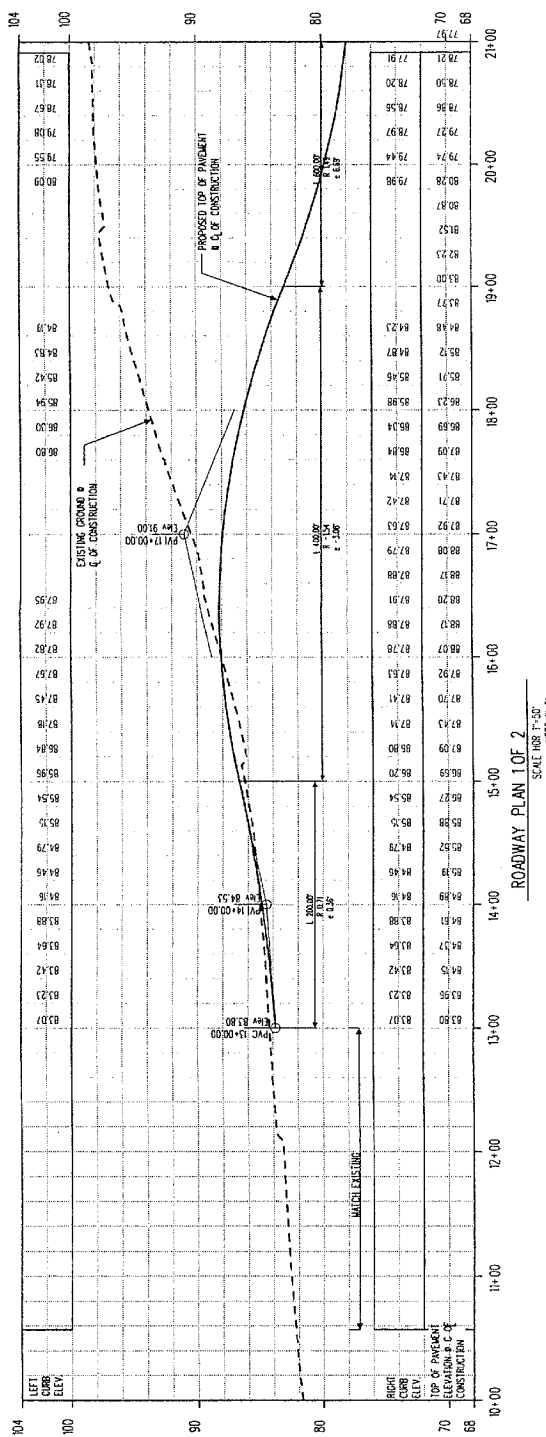
# GENERAL NOTES CONT'D

1. OFFSET SHOWN FOR CURB AND GUTTER ARE FROM C OF CONSTRUCTION TO THE FACE OF THE CURB.
2. ALL OFFSETS ARE BASED ON THE PROPOSED C OF CONSTRUCTION ALIGNMENT SHOWN HEREON.
3. ALL DIMENSIONS ARE IN FEET UNLESS INDICATED.
4. SEE STATE ROAD PLAN AND PROFILE FOR MORE INFORMATION.

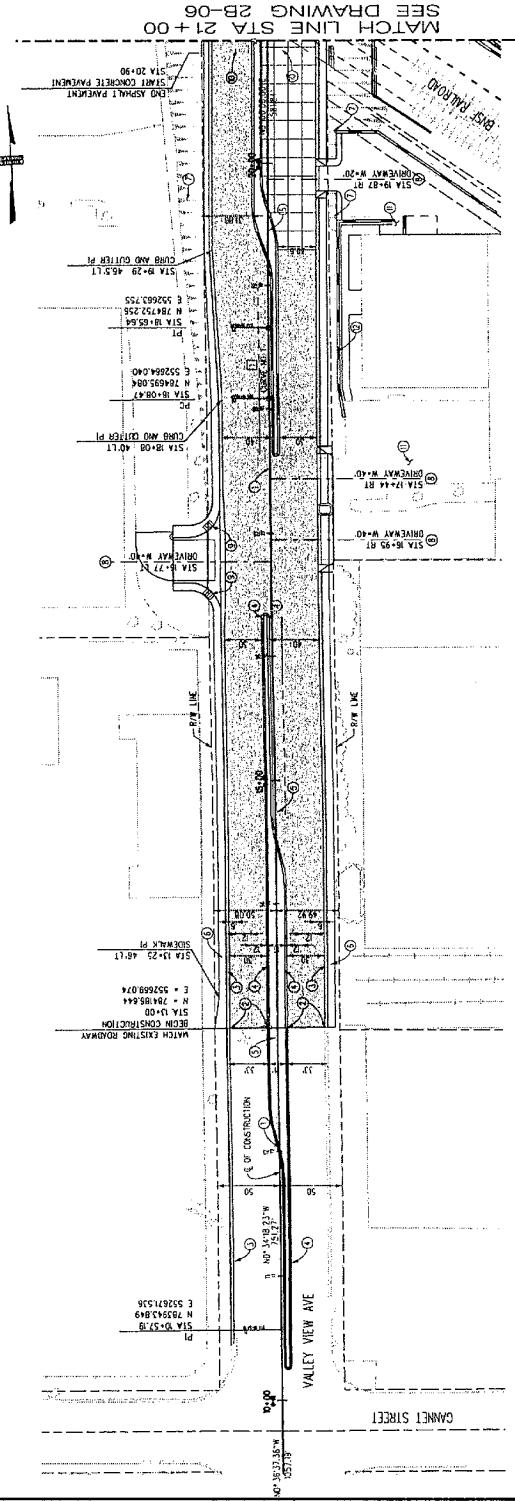


CITY OF SANTA FE SPRINGS  
ENGINEERING DEPARTMENT  
VALLEY VIEW GRADE SEPARATION  
VALLEY VIEW PLAN AND PROFILE  
1 OF 2

PROJECT NO.	277-04-03	DATE	05-21-03
DESIGNED BY	STEVEN J. LEWIS	CHECKED BY	STEVEN J. LEWIS
DRAWN BY	STEVEN J. LEWIS	IN CHARGE	STEVEN J. LEWIS
STAFF		DATE	05-21-03



ROADWAY PLAN 1 OF 2  
SCALE: HORIZ. 1"=50'  
VERT. 1"=5'



# GENERAL NOTES

1. THIS PLAN IS FOR INFORMATION ONLY. THE CITY OF SANTA FE SPRINGS SHALL BE CONSIDERED THE AUTHORITY FOR THE CITY OF SANTA FE SPRINGS.
2. ALL APPLICABLE ORDINANCES OF THE CITY OF SANTA FE SPRINGS SHALL BE COMPLIED WITH.
3. THE LOCATION, DESIGN AND CONSTRUCTION OF ANY AND ALL UNDERGROUND UTILITIES ARE NOT SHOWN HEREON. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES.
4. APPLICATION FOR INSPECTION SHALL BE MADE AT LEAST FIVE DAYS PRIOR TO THE START OF CONSTRUCTION.

ROADWAY PLAN 1 OF 2  
SCALE: HORIZ. 1"=50'  
VERT. 1"=5'

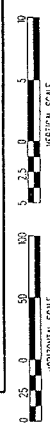
CURVE	RADIUS	LENGTH	TANGENT
1	3792.58	57.17	78.55

# CONSTRUCTION NOTES

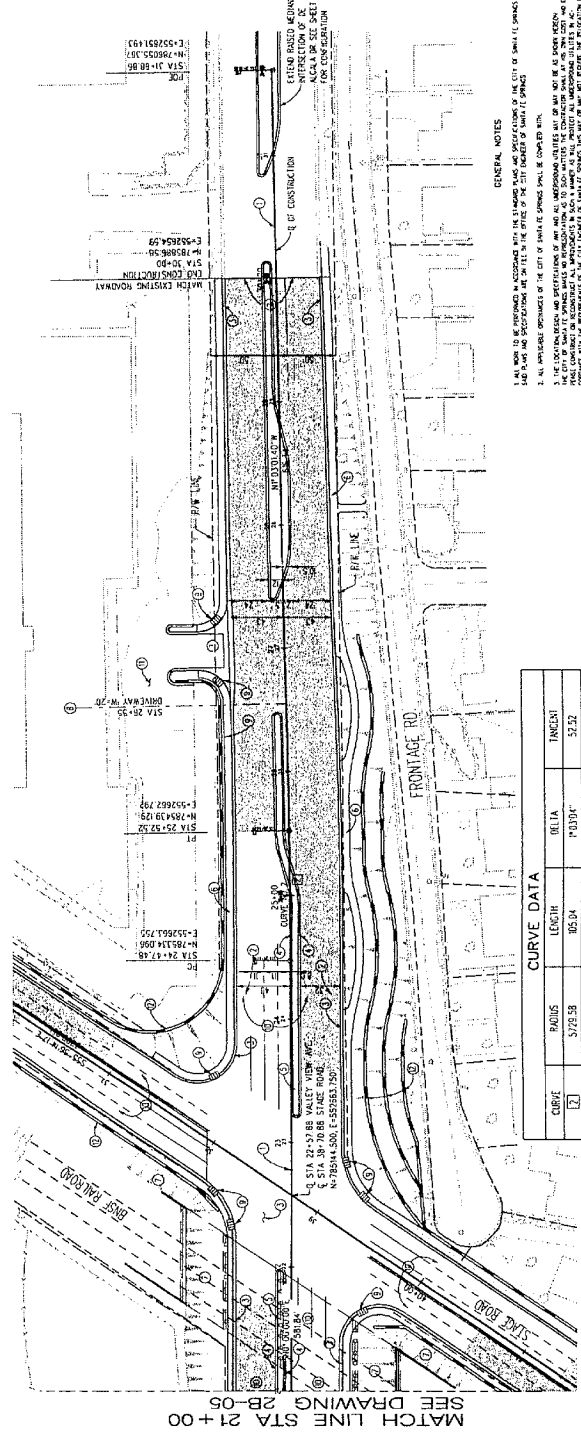
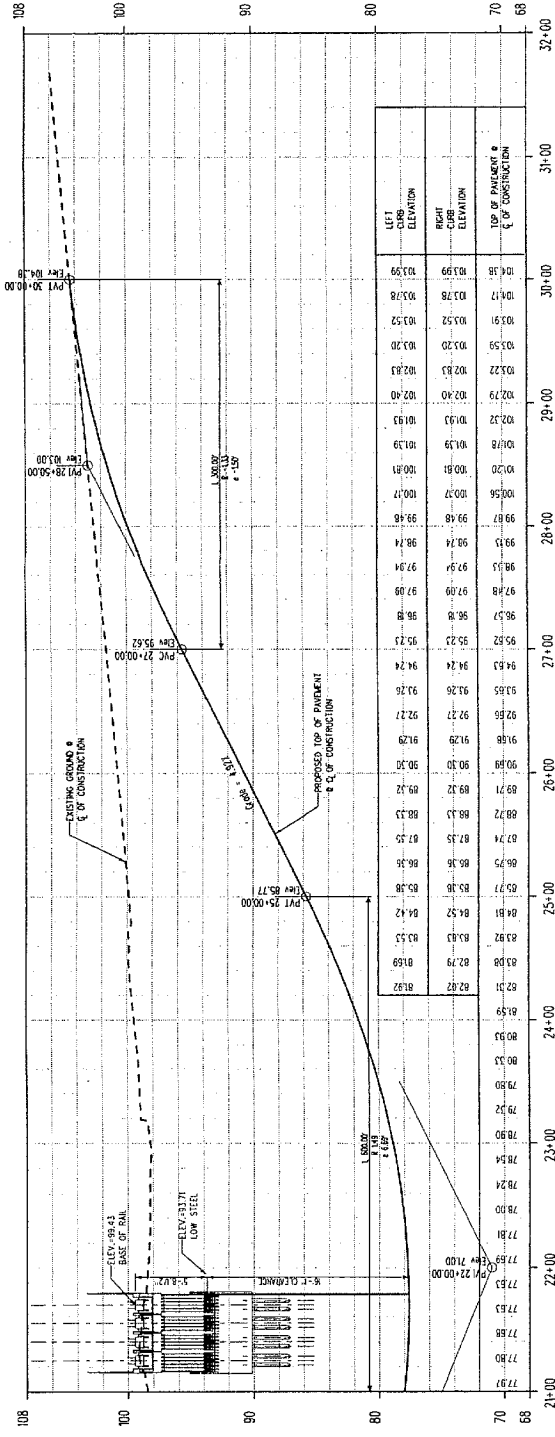
1. ESTABLISH C OF CONSTRUCTION BASED ON INFORMATION SHOWN HEREON AND SHEET 28-05.
2. PLACE 10" AC ON 4" AIRB AND 6" AGGREGATE BASE COURSE.
3. CONSTRUCT CURB AND GUTTER TYPE A2 PER CITY OF SANTA FE SPRINGS STD DRAWINGS PLAT NO. R-7.
4. CONSTRUCT LEVON CUBES AND CUTTER TYPE B2 PER CITY OF SANTA FE SPRINGS STD DRAWINGS PLAT NO. R-7.
5. CONSTRUCT RASSED MEDIAN PER DETAILS IN SHEET 28-04 AND LANDSCAPE DIRECTION.
6. CONSTRUCT PCC SIDEWALK PER CITY OF SANTA FE SPRINGS STD DRAWINGS 8-2, 8-22, AND TYPICAL SECTION.
7. CONSTRUCT SLOPE 2:1 SEE CROSS SECTION.
8. CONSTRUCT CONCRETE DRIVEWAY PER CITY OF SANTA FE SPRINGS STD PLAN NO. R-12 AND SIDEWALK GRADING DETAIL IN SHEET 28-03.
9. CONSTRUCT WHEELCHUR RAMP PER CALTRANS STD PLAN MPP 488.
10. PLACE 8" PCC PAVEMENT ON 4" AIRB AND 6" AGGREGATE BASE COURSE.
11. REGRADE PARKING LOT SEE DRAWING 28-11.
12. CONSTRUCT RETAINING WALL SEE SECTION 8.
13. PLACE CONCRETE JOISTS ACCORDING TO DRAWING 28-08.

# GENERAL NOTES CONT'D

1. OFFSET SHOWN FOR DIBS AND CUTTER ARE FROM C OF CONSTRUCTION TO THE FACE OF THE CURB.
2. ALL OFFSET ARE BASED ON THE PROPOSED C OF CONSTRUCTION ALIGNMENT SHOWN HEREON.
3. ALL DIMENSIONS ARE IN FEET UNLESS INDICATED.
4. SEE STAGE ROAD PLAN AND PROFILE FOR MORE INFORMATION.
5. ELEVATION SHOWN IN DRAWING 28-05 SUPERSEDES ANY ELEVATION SHOWN IN THIS DRAWING.



CITY OF SANTA FE SPRINGS ENGINEERING DEPARTMENT	
VALLEY VIEW GRADE SEPARATION VALLEY VIEW PLAN AND PROFILE	
2 OF 2	
PROJECT NO.	28-05
DATE	12/15/2023
DESIGNED BY	STAFF
CHECKED BY	STAFF
APPROVED BY	STAFF



CURVE DATA			
CURVE	RADIUS	LENGTH	TANGENT
1	5773.58	105.84	52.22

- ## GENERAL NOTES
1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE NOTED.
  2. ALL DIMENSIONS ARE BASED ON THE CENTERLINE OF THE VALLEY VIEW GRADE SEPARATION.
  3. THE EXISTING GROUND AND PROPOSED GRADE ARE SHOWN HEREON. THE EXISTING GROUND IS BASED ON THE SURVEY DATA AND THE PROPOSED GRADE IS BASED ON THE DESIGN DATA.
  4. THE EXISTING GROUND AND PROPOSED GRADE ARE SHOWN HEREON. THE EXISTING GROUND IS BASED ON THE SURVEY DATA AND THE PROPOSED GRADE IS BASED ON THE DESIGN DATA.
  5. THE EXISTING GROUND AND PROPOSED GRADE ARE SHOWN HEREON. THE EXISTING GROUND IS BASED ON THE SURVEY DATA AND THE PROPOSED GRADE IS BASED ON THE DESIGN DATA.
  6. THE EXISTING GROUND AND PROPOSED GRADE ARE SHOWN HEREON. THE EXISTING GROUND IS BASED ON THE SURVEY DATA AND THE PROPOSED GRADE IS BASED ON THE DESIGN DATA.
  7. THE EXISTING GROUND AND PROPOSED GRADE ARE SHOWN HEREON. THE EXISTING GROUND IS BASED ON THE SURVEY DATA AND THE PROPOSED GRADE IS BASED ON THE DESIGN DATA.
  8. THE EXISTING GROUND AND PROPOSED GRADE ARE SHOWN HEREON. THE EXISTING GROUND IS BASED ON THE SURVEY DATA AND THE PROPOSED GRADE IS BASED ON THE DESIGN DATA.
  9. THE EXISTING GROUND AND PROPOSED GRADE ARE SHOWN HEREON. THE EXISTING GROUND IS BASED ON THE SURVEY DATA AND THE PROPOSED GRADE IS BASED ON THE DESIGN DATA.
  10. THE EXISTING GROUND AND PROPOSED GRADE ARE SHOWN HEREON. THE EXISTING GROUND IS BASED ON THE SURVEY DATA AND THE PROPOSED GRADE IS BASED ON THE DESIGN DATA.

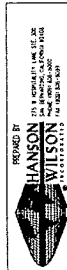


# CONSTRUCTION NOTES

1. RETURN TO C OF CONSTRUCTION BASED ON INFORMATION SHOWN HEREON.
2. PLACE BY 4" AIR AND 6" ASPHALT BASE COURSE.
3. CONSTRUCT CURB AND GUTTER TYPE PER CITY OF SANTA FE SPRINGS STD DRAWINGS PLAN NO. R-7.
4. CONSTRUCT MEDIAN CURB AND GUTTER TYPE PER CITY OF SANTA FE SPRINGS STD DRAWINGS PLAN NO. R-7.
5. CONSTRUCT SIDEWALK PER CITY OF SANTA FE SPRINGS STD DRAWINGS PLAN NO. R-7.
6. CONSTRUCT PAVEMENT PER DETAILS IN SHEET 28-04 AND DRAWING R-2.2.2 AND TYPICAL SECTION.
7. CONSTRUCT SLOPE 2:1 SEE CROSS SECTION.
8. CONSTRUCT CONCRETE DRIVEWAY PER CITY OF SANTA FE SPRINGS STD PLAN NO. R-12 AND DRIVEWAY DRAWING DETAIL IN SHEET 28-03.
9. CONSTRUCT WHEELCROW RAMP PER CITY OF SANTA FE SPRINGS STD PLAN NO. R-12.
10. PLACE TOP OF PAVEMENT ON 4" AIR AND 6" ASPHALT BASE COURSE.
11. REGRADE PARKING LOT SEE DRAWING 28-03.
12. CONSTRUCT RETAINING WALL SEE SECTION A.
13. PLACE CONCRETE JOINTS ACCORDING TO DRAWING 28-02.

# GENERAL NOTES CONT'D

1. OFFSET SHOWN FOR CURB AND GUTTER ARE FROM C OF CONSTRUCTION TO THE FACE OF THE CURB.
2. ALL OFFSETS ARE BASED ON THE PROPOSED C OF CONSTRUCTION ALIGNMENT SHOWN HEREON.
3. ALL DIMENSIONS ARE IN FEET UNLESS INDICATED.
4. SEE STAGE ROAD PLAN AND PROFILE FOR MORE INFORMATION.
5. ELEVATIONS SHOWN IN DRAWING 28-08 SUPERSEDE ANY ELEVATION SHOWN IN THIS DRAWING.

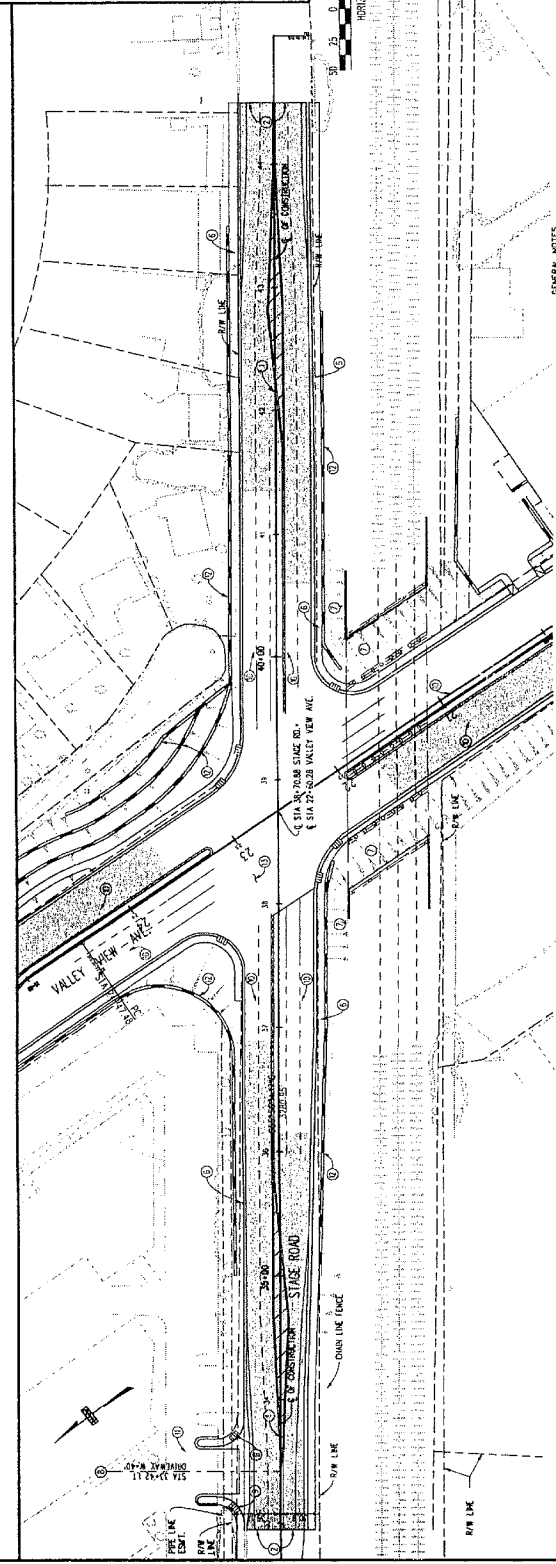
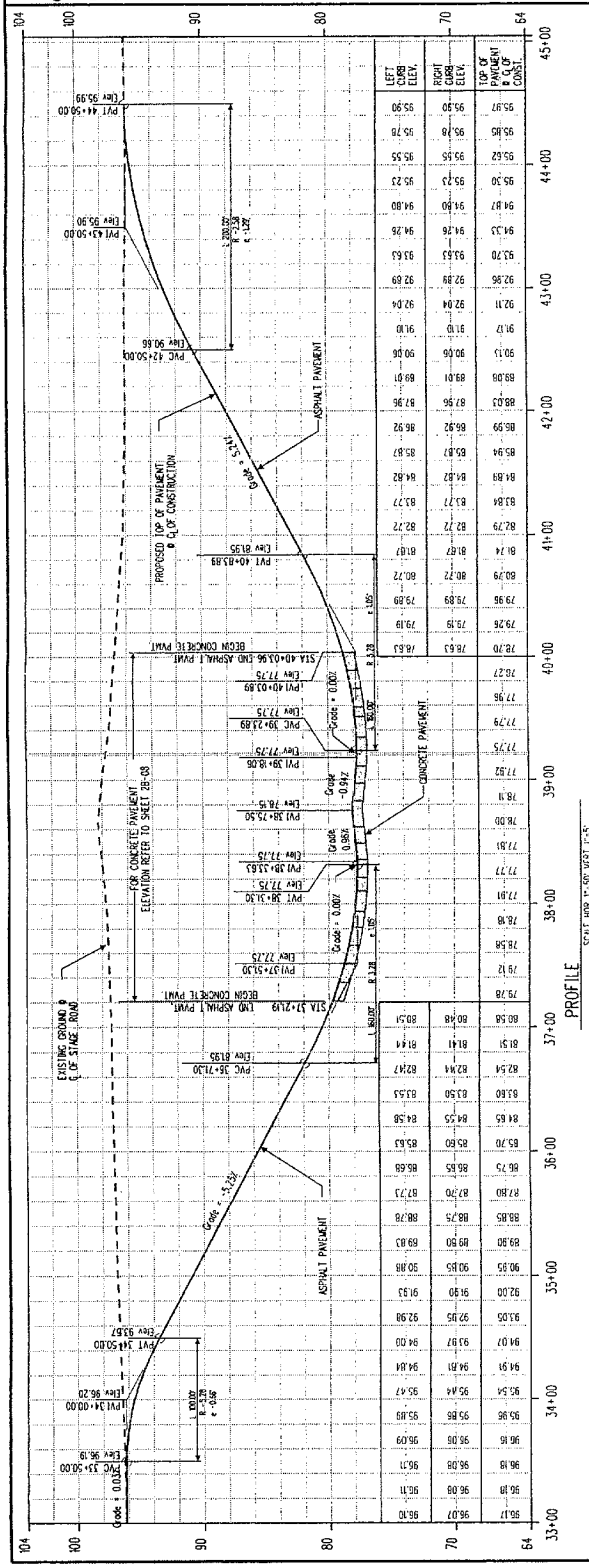


APPROVED



# CITY OF SANTA FE SPRINGS VALLEY VIEW GRADE SEPARATION PLAN AND PROFILE 1 OF 1

PROJECT	VALLEY VIEW GRADE SEPARATION
DESIGNED BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE
DRAWN BY	DATE
SCALE	DATE
SHEET	DATE
DATE	DATE



# GENERAL NOTES

1. WORK TO BE ACCORDING TO STANDARD SPECIFICATIONS FOR THE CONSTRUCTION OF THE CITY OF SANTA FE SPRINGS.
2. ALL APPLICABLE ORDINANCES OF THE CITY OF SANTA FE SPRINGS SHALL BE COMPLIED WITH.
3. THE LOCATION, DESIGN AND SPECIFICATIONS OF ANY AND ALL IMPROVEMENTS SHALL BE AS SHOWN HEREON.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF SANTA FE SPRINGS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF SANTA FE SPRINGS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF SANTA FE SPRINGS.

**ATTACHMENT 3**

**ACQUISITION PROCEDURES**

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Thursd

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## Publications

### Acquisition

[Interest Rates - Updated: June, 2002](#)[Your Property - Your Transportation Project booklet](#) [Su Propiedad - Su Proyecto de Transportacion](#)

### Appraisals

[Appraisal Guidelines & Forms](#)

### Relocation Assistance Program

[Business Relocation Brochure](#) [Libreto de Relocalizacion de Negocios](#) [Mobile Home Relocation Assistance Program](#) [Programa de Asistencia Para Relocalizacion de Casas Movibles](#) [Relocation Assistance for Residential Relocation \(English\)](#) [Relocation Assistance for Residential Relocation \(Spanish\)](#) [Right of Way 1999/2000 Fact Sheet](#) [Right of Way Manual, and Forms & Exhibits](#)

### Wireless Telecommunication Facilities

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**STATE OF CALIFORNIA  
BUSINESS, TRANSPORTATION AND HOUSING AGENCY  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF RIGHT OF WAY**

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**AUGUST 1998**

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**This is an informational pamphlet only. It is not intended to give a complete statement of all state or federal laws and regulations pertaining to the purchase of your property for a public use, the relocation assistance program, technical legal definitions, or any form of legal advice.**

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**Your property  
Your  
transportation  
project**

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## INTRODUCTION

This booklet was prepared for you as a person who may be affected by a proposed public transportation project. If it is your property that is involved, you may have wondered what will happen. Who will contact you? How much will you be paid for your property? Who will pay your moving costs? Will the State help you find a new place to live? Important questions like these require specific answers.

We hope this booklet will answer some of your questions and present a better picture of our overall procedures.

## **Why does a public agency have the right to buy my property?**

Our State and federal constitutions recognize the need for public agencies to purchase private property for public use, and provide appropriate safeguards to accomplish this purpose. State and federal constitutions and the Uniform Relocation Assistance and Real Property Acquisition Policies Act authorize the purchase of private property for public use and assure full protection of the rights of each citizen. The responsibility for studying potential sites for a transportation project rests with a team of specially trained individuals selected to do this important job. Many months are spent in preliminary study and investigation to consider possible locations for a project.

Consideration of the environmental elements and social effect are as much a part of location determination as engineering and cost. Participation by private citizens and public agencies is actively sought so that various views can be considered in the study process. The process includes public hearings which give persons an opportunity to express their views on the locations being considered.

The California Department of Transportation is composed of many specialists. Among these are:

### **Statisticians**

Determine how we wish to travel and where we desire to go. This includes studies of existing traffic patterns, "origin-destination" surveys and user benefits.

### **Economists**

Determine whether the proposed project location is economically sound. They research and analyze the effects produced by similar projects upon other communities.

### **Environmentalists**

Evaluate the effect of the proposed project on social and environmental factors.

### **Advance planners**

Predict the transportation needs of the future based upon available statistics.

### **Design engineers**

Recommend the type of transportation project which will be of the most benefit to the public. They prepare design plans and determine which properties will be needed for the project.

## **Relocation specialists**

Make early studies of the needs of the persons who will have to be relocated and the kind of replacement housing which will be required. A detailed replacement housing plan will be completed before the Department requires anyone to move.

As a result of this team effort, the best possible location for a transportation facility is selected. The particular location is selected after thorough social, economic, engineering, and environmental analysis, as well as consideration of expressed public desires. The goal is the greatest public good and the least private injury or inconvenience while rendering the best possible service.

## **Who will contact me?**

Appraisal and purchase of properties needed for this transportation facility is the responsibility of the State Department of Transportation. The Department provides a Relocation Assistance Program for businesses and persons who must move because of a project. A Right of Way Agent from the Department will assist you and give you general information about the project.

One of the first persons you will meet is a staff appraiser collecting valuation data in your neighborhood. The appraiser will analyze your property and examine all of the features which contribute to its value. Information about improvements you have made and any other special features that you believe may affect the value of your property should be given to the appraiser to ensure a fair value is assigned to your property.

It is the duty of the Department to ensure that you receive the same price which you would receive if you sold your property privately in the open market. The Department cannot buy your property for more than it is worth, but it *can* and *will* assure you that you do not have to sell your property for less than its fair market value. If the property is an owner-occupied residential property containing no more than four residential units, California law provides that the owner, upon request, may review a copy of the appraisal upon which the offer is based.

## **What advantage is there in selling your property to the State?**

A real estate purchase by the Department of Transportation is handled in the same way as any private sale of property. However, there can be financial advantages in selling to the Department.



The Department will pay fair market value for your property. The Department also will pay for the preparation of all documents, all title and escrow fees, a policy of title insurance, recording fees and such other fees as may be required for the conveyance of title to the State of California. Since this is a direct conveyance of real property from the property owner to the State, there are no real estate commissions involved, and the Department will not recognize or pay any such real estate commission.

A private sale will usually cost around \$14,000 for sales expenses. There are no seller's expenses in a sale to the State.

Additionally, you may be eligible for relocation payments and benefits when you move. (These benefits are described in supplemental booklets which will be provided to you.)

### **Will I be paid for loss in value to my remaining property?**

When only a part of your property is needed, every reasonable effort is made to ensure that you do not suffer a financial loss. The total payment by the State will be for the property the State purchases and for any loss in value to your remaining property.

The determination of any loss in value is an appraisal problem involving variables in which a brief explanation might not adequately cover all situations. Should this situation be involved, the Department representative will fully explain the effect of a part purchase on your remaining property.

### **May I retain and move my home; business building; machinery; or equipment?**

The representative who has been assigned to buy your property will help you to determine whether you can or should move your house to another location, if this is what you wish. If your house is movable and you wish to make such an arrangement, the State will pay you on the basis of the market value of your present lot including landscaping, plus the reasonable cost of moving the building. There are cases, because of age, size or condition of the house, where the cost of moving it would exceed its present market value less its salvage value. In such a case, payment of moving cost would of course be an unwise expenditure.

If you operate a business, you may wish to keep and move fixed machinery and equipment. Additionally, as an owner of a business conducted on the property to be purchased, you may be entitled to compensation for the loss of goodwill.

If any of these concepts are applicable to your situation, they will be fully explained by the right of way agent assigned to purchase your property.

### **Will I have time to select another home after the State makes its purchase?**

The Department starts to appraise properties early enough so that you will have ample time to move prior to project construction. Like any other real estate transaction, it requires a month or two to close escrow after a right of way contract and deed have been signed. You will not be required to move until reasonable replacement housing is available.

If you don't want to buy another home right away, you may sell to the State and rent back temporarily. It is in your best interest, however, to look for a new place in which to live as soon as possible. Finding a home early, that best suits your needs, before you are required to move will minimize your personal inconvenience and you will avoid having to make a choice of housing under pressure when you are required to move.

If you wish, the State will, at no cost to you, provide you with assistance in finding a new place in which to live. The State will give you at least 90 days notice in writing before asking you to move.

### **What happens to the loan on my property?**

After you and the Department have agreed upon a price, a Department representative will contact all other parties having an interest in the property. Payment to satisfy outstanding loans or liens will be made through a title company escrow as in any other real estate transaction.

### **What will happen to my GI or Cal-Vet loan?**

The Veterans Administration and the California Department of Veterans Affairs allow your veteran loan privileges to be transferred and to become available for coverage on another property.

Your right of way representative will assist you; however, it is to your benefit and it is your responsibility to check with the Veterans Administration or the California Department of Veterans Affairs for procedural instructions.

If the value of my property is higher today than when I purchased it, do I have to pay income tax on this difference when I convey to the State?

According to the Internal Revenue Service, the sale of property to a governmental agency for public purposes comes under the definition of an "involuntary conversion". In these cases, it is not necessary to pay income tax or capital gains tax if the money you receive is used to buy a similar property within a limited period of time. In every case, however, you should check with your local Internal Revenue Service office.

### **Will I lose the favorable tax base I now have under the provisions of Proposition 13?**

Section 2(d) of Article XIII.A of the California Constitution and Section 68, Rule 462.5 of the Revenue and Taxation Code generally provide that property tax relief shall be granted to any real property owner who acquires comparable replacement property after having been displaced by governmental acquisition or eminent domain proceedings.

You will be given a copy of Rule 462.5 with an attached page showing examples of how to calculate estimates of the tax relief you may be eligible for. These are only approximations. You must see your County Tax Assessor for a final determination.

**Note:** Revenue and Taxation Code Section 68, Rule 462.5, G.1 through G.4, set forth time limits that may affect your eligibility to retain your favorable current real property tax status.

### **The State's right of eminent domain.**

Sometimes, when private property is required for public purposes, the owner and the State cannot agree on the terms of sale. Our earnest hope is to avoid a proceeding in eminent domain with the added time, concern and cost to everyone. In cases where negotiations have reached an impasse and possession of the property is required in order to allow the project to proceed to construction, the State must resort to the use of the eminent domain process. About 20 percent of our transactions statewide require eminent domain proceedings, with the remainder being settled through negotiations.

An owner's rights are *guaranteed by the federal and State constitutions and applicable State laws*. The principal right is that just compensation must be paid. When there are indications that agreement on the purchase of your property cannot be reached, the State will initiate condemnation proceedings.

The Department will request authority from the California Transportation Commission to file a condemnation action. You will be given an opportunity to appear before the Commission to question whether public interest, necessity, planning and location

require the proposed project and your property. The Commission does not hear arguments regarding valuation.

Condemnation suit documents will be prepared by the State and filed with the court in the county where the property is located. Summons and complaint will then be served on all persons having a property interest in the parcel. The persons served must answer within 30 days.

Counsel for the parties will then prepare for trial, and the court will set dates for preliminary motions and the trial.

### **What happens in a condemnation trial?**

The purpose of the trial is to determine the amount of compensation. Usually the trial is conducted before a judge and jury. Both the property owner and the State will have the opportunity to present evidence of value. The jury will determine the amount of compensation after being instructed as to the law by the judge. In those cases where the parties choose not to have a jury, the judge will decide the amount of compensation.

The judgment is then prepared by counsel and signed by the judge. It will state that, upon deposit of the amount of the verdict with the court for the benefit of the property owner, title will be transferred to public ownership.

When the State makes the deposit as required by the judgment, the final order of condemnation is signed by the judge and recorded. This is the actual transfer of title.

### **Who pays the condemnation trial costs?**

The State pays the costs of its attorney and its engineering and appraisal witnesses. It will also pay the jury fees and certain of your incidental costs which are determined by law to be allowable costs. The fee for filing your answer with the court is an example of such costs.

If the judge feels that the State's offer of settlement was unreasonable and the demand of the property owner was reasonable viewed in light of the verdict, the property owner may receive litigation expenses. The judgment is then prepared by counsel and signed by the judge.

### **If I want a trial, must I have an attorney and expert witnesses?**

Most property owners will be represented by an attorney, although they have the right to represent themselves.

You may wish to consult your family attorney. If you do not have one, in many communities the yellow pages of the telephone directory will refer you to an attorney reference service.

You and your attorney must decide what type of case you will present and what witnesses will be needed.

### **Will I be paid any moving expenses or any other relocation assistance benefit even though I go to court?**

A decision to go to court has no effect on your right to moving expenses. Payment of moving expenses is made separately from the condemnation action. You will be provided details of additional assistance to help displaced persons, businesses, farms or nonprofit organizations in finding, purchasing or renting, and moving to a new location. These are explained in various booklets prepared for homeowners, tenants, business and farm operators and are made available by the Department of Transportation.

### **How long can I keep my property?**

This usually depends on when construction will begin. If the trial is conducted before the property is needed for construction, you may stay on the property and rent from the State.

If construction must begin before the trial, the State will seek a court order for possession.

The court will determine the proper amount of money which the State will be required to deposit with the State Treasurer as security for the purchase price of your property.

The court may then grant to the State an order for possession allowing the State to use the property for construction of the project.

The State will serve all persons having the property interest in your property with the order for possession.

Generally, the law requires the owner be given 90 days notice of the State's intention to take possession before the State may occupy your property.

Subject to the rights of any other persons having a property interest, you may withdraw all or part of the security deposit. If you do not make a withdrawal, the State will pay interest on the eventual court award of compensation from the time it occupied your property until the date of final payment to you. The current legal rate of interest will be paid at the time of final settlement.

The Department's representative assigned to purchase your property will assist you in the transaction and will be happy to answer any additional questions you may have.

## **DEFINITIONS**

The language used in relation to eminent domain proceedings may be new to you. These are some terms you may hear and their general meaning.

### **Acquire**

To purchase.

### **Answer**

The property owner's written reply, in appropriate legal form, filed with the court in response to the complaint and as requested by the summons.

### **Compensation**

The amount of money to which a property owner is entitled under the law for the purchase or damage to the property.

### **Complaint**

The document filed with the court by the State which initiates an eminent domain proceeding.

### **Condemnation**

The legal process by which a proceeding in eminent domain is accomplished.

### **Counsel**

An attorney or attorneys.

### **Eminent Domain**

The right of government to purchase private property for public use.

### **Final order of condemnation**

The instrument which, when recorded, transfers title to public ownership.

### **Judgment**

The court's formal decision based on applicable law and the verdict.

**Loss of goodwill**

A loss in the value of a business caused by the State's acquisition of property that cannot be reasonably prevented by relocation of the business or the owner adopting prudent or reasonable steps that preserve the value of the business goodwill.

**Market value**

The fair market value of the property taken is the highest price on the date of valuation that would be agreed to by a seller, being willing to sell but under no particular or urgent necessity for so doing, nor obliged to sell, and a buyer, being ready, willing, and able to buy but under no particular necessity for so doing, each dealing with the other with full knowledge of all the uses and purposes for which the property is reasonably adaptable and available.

**Parcel**

Usually means the property that is being acquired.

**Plaintiff**

The public agency that desires to purchase the property.

**Possession**

Legal control; to have the right to use.

**Property**

The right or interest which an individual has in land, including the rights to use or possess. Property is ownership; the exclusive right to use, possess or dispose of a thing.

**Right of entry**

An agreement between an owner and the State which allows the State to utilize the property while continuing to negotiate the terms of settlement. Interest, calculated at the current legal rate, is included in the settlement upon conclusion of the transaction.

**State**

The State of California acting through the Department of Transportation.



**Summons**

Notification of filing of a lawsuit in eminent domain and of the necessity to file an answer or other responsive pleading.

**Title**

Legal ownership.

**Trial**

The hearing of the facts from plaintiff and defendant in court, either with or without a jury.

**Verdict**

The amount of compensation to be paid for the property.

## **ATTACHMENT 4**

### **MITIGATION MONITORING AND REPORTING PROGRAM**

**THIRD MAIN TRACK AND GRADE SEPARATION PROJECT ON THE BURLINGTON NORTHERN  
SANTA FE RAILWAY COMPANY EAST-WEST MAIN LINE RAILROAD TRACK  
MITIGATION MONITORING AND REPORTING PROGRAM**

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Verification	Status / Date / Initials
<b>Air Quality</b>						
4.2-1	<u>Construction</u> Limit construction equipment use to a mix of equipment that is substantially the same as that used for the estimation of pollutant emissions. To the extent economically feasible, replace diesel combustion equipment with natural gas or electrical equipment.	CEQA Draft EIR	All of the construction mitigation measures shall be incorporated into the construction contract and the measures shall be implemented during construction.	Division of Rail or agency with responsibility for overseeing grade separation construction.	Copies of approved construction contract with the above construction equipment air quality mitigation measures shall be retained by the Division of Rail or construction agency and field inspections during construction by Division of Rail or the overseeing agency shall verify the measures are being implemented as identified in this document.	
4.2-2	All equipment shall be properly tuned and maintained in accordance with manufacturer's specifications.					
4.2-3	General contractors shall maintain and operate construction equipment so as to minimize exhaust emissions.					
4.2-4	During construction, trucks and vehicles in loading and unloading queues would be kept with their engines off, when not in use, to reduce vehicle emissions.					
4.2-5	Construction activities should be phased and scheduled to avoid emissions peaks and discontinued during second-stage smog alerts.					
4.2-6	Require 90-day low-NOx tune-ups for off road equipment.					
4.2-7	Limit allowable idling to 10 minutes for trucks and heavy equipment.					

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	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Verification	Status / Date / Initials
<b>Air Quality (continued)</b>						
4.2-8	Water active grading sites at least twice daily and when dust is observed migrating from the site. Watering shall be designed to maintain a minimum 12% moisture content of the disturbed soil, except where such moisture content would conflict with engineering requirements.	CEQA Draft EIR	All of the construction mitigation measures shall be incorporated into the construction contract and the measures shall be implemented during construction.	Division of Rail or agency with responsibility for overseeing grade separation construction.	Copies of approved construction contract with the above construction equipment air quality mitigation measures shall be retained by the Division of Rail or construction agency and field inspections during construction by Division of Rail or the overseeing agency shall verify the measures are being implemented as identified in this document.	
4.2-9	Suspend all grading and excavation operations when wind speeds exceed 40.23 km/h (25 mph).					
4.2-10	Cover or water twice daily any on-site stockpiles of debris, dirt or other dusty material.					
4.2-11	Replace ground cover or pave disturbed areas immediately after construction is completed in the affected area.					
4.2-12	Sweep or wash any site access points within 30 minutes of any visible dirt deposition on any public roadway.					
4.2-13	Cover all haul trucks.					
4.2-14	Pave or apply water four times daily to all unpaved parking or staging areas.					
4.2-15	Hydro-seed or otherwise stabilize any cleared area which is to remain inactive for more than 96 hours after clearing is completed.					

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<b>Air Quality (continued)</b>						
4.2-16	Encourage car pooling for construction workers.	CEQA Draft EIR	All of the construction mitigation measures shall be incorporated into the construction contract and the measures shall be implemented during construction.	Division of Rail or agency with responsibility for overseeing grade separation construction.	Copies of approved construction contract with the above construction equipment air quality mitigation measures shall be retained by the Division of Rail or construction agency and field inspections during construction by Division of Rail or the overseeing agency shall verify the measures are being implemented as identified in this document.	
4.2-17	Limit lane closures to off-peak travel periods.					
4.2-18	Park construction vehicles off traveled roadways.					
4.2-19	Wet down or cover dirt hauled off-site.					
4.2-20	Wash or sweep access points daily.					
4.2-21	Encourage receipt of materials during non-peak traffic hours.					
4.2-22	Conduct pre-construction assessments.					
4.2-23	Perform remediation consistent with air hazards criteria in SCAQMD rules and regulations.					

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	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Verification	Status / Date / Initials
<b>Biological Resources</b>						
4.3-1	To offset short- and long-term impacts to the San Gabriel River Channel, BNSF shall implement one of the following measures: acquire 0.4047 hectare (one acre) of land within a wetland habitat mitigation bank; provide funds to an agency acceptable to the regulatory agencies to create an additional 0.4047 hectare (one additional acre) of riparian or wetland habitat at an acceptable location within the project area (including sufficient funds to establish the requisite non-wasting endowment; or with approval of Los Angeles County Flood Control and the U.S. Corps of Engineers, fund the creation of 0.4047 hectare (one acre) of riparian habitat at an acceptable location within the San Gabriel River channel.	CEQA Draft EIR	Prior to initiating construction the BNSF or the bridge contractor shall provide Division of Rail with a copy of each permit for modifying the San Gabriel Bridge.	BNSF / contractor / Division of Rail	Copies of the permits from the Corps; California Department of Fish and Game; and Regional Board shall be provided to Division of Rail. BNSF/ Division of Rail shall verify mitigation is implemented in accordance with the mitigation outlined above or contained in the permits. Ultimate mitigation shall be verified by sign off by the above regulatory agencies that the mitigation has been implemented as required.	

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	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Verification	Status / Date / Initials
<b>Cultural Resources</b>						
4.4-1	Earth-moving activities in the areas around the recorded location of Site 30-120020 and the suggested location of Site CA-LAN-182 in the APE shall be monitored by a qualified archaeologist.	CEQA Draft EIR	Prior to initiating construction the developer or contractor will submit the name of a qualified archaeologist for approval by the Division of Rail. Monitoring shall be conducted during grading.	Division of Rail or implementing local agency	During grading, field inspectors shall verify the archaeological monitor is on the project site and monitoring construction activities. If new archaeological resources are found on the project site during grading, a report shall be prepared documenting the discovery and the ultimate management of the new resources. A copy of the report shall be retained in the project file.	
4.4-2	The commemorative plaque marking the approximate site of the Los Nietos School be relocated and rededicated in coordination with the City of Santa Fe Springs following completion of the grade separation at this location.	CEQA Draft EIR	The plaque shall be removed prior to construction in the project area. It shall be re-dedicated in cooperation with the City of Santa Fe Springs following completion of the Los Nietos/Norwalk grade separation.	Division of Rail / City of Santa Fe Springs	Division of Rail will place a note to the project file verifying that the plaque has been collected and stored and a subsequent note when it is re-dedicated with the City.	

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	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Verification	Status / Date / Initials
<b>Cultural Resources (continued)</b>						
4.4-3	Should any archaeological, historical or paleontological (cultural) resources or human remains be encountered during construction in areas where no resources were expected, construction in the area shall be immediately terminated. In the case of cultural resources, a qualified professional shall be called to examine the discovery. BNSF shall follow recommended actions for mitigation of the exposed resource until the resource is fully evaluated and any necessary data recovery or avoidance measures implemented. In the case of human remains, the County Coroner shall be contacted and BNSF shall follow recommended actions for mitigation of the exposed remains until it is fully evaluated and appropriate actions taken for removal and repatriation.	CEQA Draft EIR	This measure will be implemented if and when any archaeological, historical, and paleontological resources are discovered during construction of any of the project components or if and when human remains are discovered.	Division of Rail or implementing local agency	Division of Rail will be immediately notified if and when any of the above resources or remains are discovered during construction of any of the project components. Copies of recommended management actions shall be retained in the file; and the actions verified by Division of Rail/BNSF inspectors. Once the management actions are completed, a copy of a report of actions or a memorandum to file verifying the management actions have been carried out shall be placed in the project file.	



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	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Verification	Status / Date / Initials
<b>Geology and Soils</b>						
4.5-1	Add protective covering of mulch, straw or synthetic material (erosion control blankets, tacking will be required).	CEQA Draft EIR	This erosion control requirement shall be incorporated into the construction contract in conjunction with the Storm Water Pollution Prevention Plan (SWPPP). The implementation shall occur during construction.	Division of Rail or implementing local agency	A copy of the construction contract shall be reviewed to verify the requirement to implement the SWPPP. Field inspections shall verify that the measures have actually been installed prior to the first predicted rainfall event. Field inspections during storm events shall verify the effectiveness of this measure to control soil erosion. Notes of inspections shall be retained in the project file.	

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	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Verification	Status / Date / Initials
<b>Geology and Soils (continued)</b>						
4.5-2	Limit the amount of area disturbed and the length of time slopes and barren ground are left exposed. After construction, soil shall be compacted to a level similar to pre-construction conditions.	CEQA Draft EIR	This erosion control requirement shall be incorporated into the construction contract in conjunction with the SWPPP. The implementation shall occur during construction.	Division of Rail or implementing local agency	A copy of the construction contract shall be reviewed to verify the requirement to implement the SWPPP. Field inspections shall verify that this measure has actually been implemented prior to the first predicted rainfall event. Field inspections during storm events shall verify the effectiveness of this measure to control soil erosion. Notes of inspections shall be retained in the project file.	

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	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Verification	Status / Date / Initials
<b>Geology and Soils (continued)</b>						
4.5-3	Construct diversion dikes and interceptor ditches to divert water away from construction areas.	CEQA Draft EIR	This erosion control requirement shall be incorporated into the construction contract in conjunction with the SWPPP. The implementation shall occur during construction.	Division of Rail or implementing local agency	A copy of the construction contract shall be reviewed to verify the requirement to implement the SWPPP. Field inspections shall verify that this measure has actually been implemented prior to the first predicted rainfall event. Field inspections during storm events shall verify the effectiveness of this measure to control soil erosion. Notes of inspections shall be retained in the project file.	

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	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Verification	Status / Date / Initials
<b>Geology and Soils (continued)</b>						
4.5-4	Install slope drains (conduits) and/or water-velocity-control devices to reduce concentrated high-velocity streams from developing.	CEQA Draft EIR	This erosion control requirement shall be incorporated into the construction contract in conjunction with the SWPPP. The implementation shall occur during construction.	Division of Rail or implementing local agency	A copy of the construction contract shall be reviewed to verify the requirement to implement the SWPPP. Field inspections shall verify that this measure has actually been implemented prior to the first predicted rainfall event. Field inspections during storm events shall verify the effectiveness of this measure to control soil erosion. Notes of inspections shall be retained in the project file.	

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	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Verification	Status / Date / Initials
<b>Geology and Soils (continued)</b>						
4.5-5	Apply provisions of erosion and sediment control that reduce volume and velocity of flows and content of sediment to levels that do not cause significant fill or gully erosion in susceptible areas. In addition, provide for restoration of areas that do become eroded.	CEQA Draft EIR	This erosion control requirement shall be incorporated into the construction contract in conjunction with the SWPPP. The implementation shall occur during construction.	Division of Rail or implementing local agency	A copy of the construction contract shall be reviewed to verify the requirement to implement the SWPPP. Field inspections shall verify that this measure has actually been implemented prior to the first predicted rainfall event. Field inspections during storm events shall verify the effectiveness of this measure to control soil erosion or determine. If areas become eroded, field inspections shall verify their restoration prior to completion of construction. Notes of inspections shall be retained in the project file.	

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	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Verification	Status / Date / Initials
<b>Geology and Soils (continued)</b>						
4.5-6	Construction of structures in areas identified in the CHJ, Inc. geotechnical reports as having a high liquefaction potential shall be implemented in accordance with measures identified in the CHJ, Inc. geotechnical reports, such as use of deep pilings for the San Gabriel River bridge.	CEQA Draft EIR	This measure shall be implemented during construction of structures in areas having high liquefaction or subsidence potential.	Division of Rail or implementing local agency	A copy of the construction contract shall be reviewed to verify the requirement to implement the engineering design measures for areas identified in the geotechnical reports as having high liquefaction or subsidence potential. Field inspections and as built drawings shall verify that this measure has actually been implemented in those structures. Construction as built drawings and notes of inspections shall be retained in the project file.	

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	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Verification	Status / Date / Initials
<b>Geology and Soils (continued)</b>						
4.5-7	<p>Apply seismic design and construction criteria to all structures subject to significant seismic shaking in accordance with the CHJ, Inc. geotechnical reports. The appropriate design criteria for the grade separations and bridges is as a: Risk Class I &amp; II, Structures Critically Needed after Disaster: Structures that are critically needed after a disaster include important utility centers, fire stations, police stations, emergency communication facilities, hospitals, and critical transportation elements such as bridges and overpasses and smaller dams.</p> <p><u>Acceptable Damage:</u> Minor non-structural; facility should remain operational and safe, or be suitable for quick restoration of service.</p>	CEQA Draft EIR	This measure shall be implemented both prior to initiating construction of any of the grade separations and during construction.	Division of Rail or implementing local agency	A copy of the seismic design criteria shall be retained in the project file. Field inspections and as built drawings shall verify that the design measures have actually been implemented in those structures. Construction as built drawings and notes of inspections shall be retained in the project file.	

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	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Verification	Status / Date / Initials
<b>Geology and Soils (continued)</b>						
4.5-8	<p>Require stability analysis for Landslide Hazard areas designated "Generally Susceptible" and "Mostly Susceptible" on the Hazards Overlay Maps. If evidence of liquefaction or subsidence is identified along the track or at-grade separations, project design mitigation may include:</p> <ul style="list-style-type: none"> <li>• In-situ densification of susceptible soil.</li> <li>• Ground improvements such as removal and replacement of susceptible soils or dewatering.</li> <li>• Deep foundations designed to accommodate liquefaction.</li> <li>• Shallow foundation design to accommodate vertical and lateral ground displacement.</li> </ul>	CEQA Draft EIR	This measure shall be implemented prior to initiating construction of any components and during construction.	Division of Rail or implementing local agency	A copy of the landslide hazard, liquefaction and subsidence design criteria shall be retained in the project file. Field inspections and as built drawings shall verify that the design measures have actually been implemented in those structures. Construction as built drawings and notes of inspections shall be retained in the project file.	



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<b>Geology and Soils (continued)</b>						
4.5-9	Require future site-specific geotechnical investigations of proposed grade separations to include an assessment of potential impacts and mitigation measures related to expansive and reactive soils and liquefaction.	CEQA Draft EIR	This measure shall be implemented prior to initiating construction of any of the any grade separations and during construction.	Implementing local agency	A copy of the geotechnical investigation shall be retained in the project file. Field inspections and as built drawings shall verify that the design measures have actually been implemented in those structures. Construction as built drawings and notes of inspections shall be retained in the project file.	
4.5-10	All development projects implemented as a result of the proposed Project shall be built in accordance with current and applicable Uniform Building Code (UBC) standards and all other applicable City, County, State and Federal laws, regulations and guidelines, which may limit construction and site preparation activities such as grading, and shall make provisions for appropriate land use restrictions, as deemed necessary, to protect residents and others from potential environmental safety hazards, either seismically induced or those resulting from other conditions such as inadequate soil conditions, which may exist in the proposed Project Area.	CEQA Draft EIR	This measure shall be implemented prior to initiating construction of any of the any grade separations and during construction.	Division of Rail or implementing local agency	A copy of the geotechnical investigation and geotechnical design requirements shall be retained in the project file. Field inspections and as built drawings shall verify that the design measures have actually been implemented in those structures. Construction as built drawings and notes of inspections shall be retained in the project file.	

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	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Verification	Status / Date / Initials
<b>Hazards</b>						
4.6-1	All contaminated material encountered shall be delivered to a licensed treatment, disposal or recycling facility that has the appropriate systems to manage the contaminated material without significant impact on the environment.	CEQA Draft EIR	This measure needs to be implemented during construction if and when contaminated material is encountered.	Division of Rail or implementing local agency	If contaminated material is discovered during construction, the Division of Rail/BNSF shall be notified in writing immediately (on the same day as the discovery). If remediation is required, a letter report summarizing all remediation activities up to the final disposal of the contaminated material shall be provided to the Division of Rail/BNSF within one week after final disposal is completed. The notification and letter report shall be retained in the project file.	
4.6-2	Before determining that an area contaminated as a result of an accidental release is fully remediated, specific thresholds of acceptable clean-up shall be established and sufficient samples shall be taken within the contaminated area to verify that these clean-up thresholds have been met.	CEQA Draft EIR	This measure needs to be implemented during construction if and when contaminated material is encountered and remediation is required.	Division of Rail or implementing local agency	Documentation of thresholds shall be retained in the project file and the sample data verifying the contaminated area is clean based on these thresholds shall also be retained in the project file.	

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	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Verification	Status / Date / Initials
<b>Hazards (continued)</b>						
4.6-3	During construction activities within existing road rights-of-way or other easements where continuous access is required, a road operation management plan shall be prepared and implemented. At a minimum this plan shall define how to minimize the amount of time spent on construction activities; how to minimize disruption of vehicle and alternative modes of traffic at all times, but particularly during periods of high traffic volumes; adequate signage and other controls, including flagpersons, to ensure that traffic can flow adequately during construction; the identification of alternative routes that can meet the traffic flow requirements of a specific area, including communication (signs, webpages, etc.) with drivers and neighborhoods where construction activities will occur; and at the end of each construction day roadways shall be prepared for continued utilization without any significant roadway hazards remaining.	CEQA Draft EIR	This measure needs to be implemented during construction, but the construction traffic management plan shall be provided to the local jurisdiction for review and approval prior to initiating construction.	Division of Rail or implementing local agency	A copy of the approved construction management plan shall be retained in the project file. Field inspectors shall verify that the elements of the plan are implemented during construction.	

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	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Verification	Status / Date / Initials
<b>Hazards (continued)</b>						
4.6-4	To the extent feasible, installation of pipelines or other construction activities in support of the Third Main Line and Grade Separations shall not be located on major evacuation or emergency response routes within any affected communities. Where construction on such routes is necessary, local emergency response providers shall be contacted and emergency access and evacuation requirements shall be maintained at a level sufficient to meet their needs.	CEQA Draft EIR	This measure needs to be implemented during construction, but the emergency response/evacuation/access traffic management plan shall be provided to the local jurisdiction for review and approval prior to initiating construction. The emergency response plan can be included as an element to the traffic management plan.	Division of Rail or implementing local agency	A copy of the approved emergency response plan or element of the construction management plan shall be retained in the project file. Field inspectors shall verify that the elements of the emergency response plan are implemented during construction.	

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	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Verification	Status / Date / Initials
<b>Hazards (continued)</b>						
4.6-5	Construction of the Third Main Track will expose the soil beneath the track and the grade separation areas. The construction contractor shall have a monitoring program installed which will identify any discolored soil or odors associated with petroleum contamination and initiate a measurement and, if required, a remediation program to prevent exposure of persons or the environment to adverse concentrations of contamination shall be implemented.	CEQA Draft EIR	The soil monitoring program and procedures shall be complied by the construction contractor and submitted to Division of Rail or the implementing local agency for review and approval prior to initiating construction. The program/procedures shall be implemented during construction	Division of Rail or implementing local agency	A copy of the approved soil monitoring program/procedures shall be retained in the project file. Field inspectors shall verify that the elements of the soil monitoring program are implemented during construction.	

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	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Verification	Status / Date / Initials
<b>Hydrology and Water Quality</b>						
4.7-1	For each construction project, surface runoff shall be collected and retained (for use onsite) or detained, and treated when released by passing the runoff through a "first-flush" treatment system, which may include onsite riparian area, detention basin with filtration system at the outlet, or other system that removes the majority of urban storm runoff pollutants, such as petroleum products and sediment. The purpose of this measure is to remove the onsite contribution to cumulative urban storm runoff and ensure the discharge is treated to reduce contributions of urban pollutants to downstream flows. The content of the discharge from each first flush system shall meet the current discharge standards established by the Regional Board for each area.	CEQA Draft EIR	The surface runoff treatment system shall be identified in the SWPPP prepared for the project site and shall be completed and approved for implementation prior to initiating construction. The SWPPP shall be implemented during construction.	Division of Rail or implementing local agency	A copy of the approved SWPPP shall be retained in the project file. Installation and maintenance of SWPPP measures shall be verified in the field by inspectors and field verification notes shall be retained in the project file.	

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	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Verification	Status / Date / Initials
<b>Hydrology and Water Quality (continued)</b>						
4.7-2	A Storm Water Pollution Prevention Plan (SWPPP) has been prepared and shall be implemented for each component of the proposed project. The best management practices (BMPs) identified in the Plan, or measures determined equivalent by a qualified engineer, will be used for each site to minimize the potential for accidental releases of any chemicals or materials on the site that could degrade water quality including solid waste and require that any spill be cleaned-up, contaminated material properly disposed of and the site returned to pre-discharge condition, or in full compliance with regulatory limits for the discharged material. The portion of the SWPPP that addresses erosion and related sediment discharge shall specify the percentage of pollutant removal that must be achieved to meet the current discharge standards established by the Regional Board for each area. At a minimum, BMPs shall achieve 60 percent removal of sediment and other pollutants from disturbed sites.	CEQA Draft EIR	The SWPPP shall be completed, reviewed and approved by the City prior to initiating construction. If a stormwater sampling plan is required, it shall be provided to the City prior to initiating construction. The SWPPP shall be implemented during construction.	Division of Rail or implementing local agency	The SWPPP shall be completed, reviewed and approved by the City prior to initiating construction. If a stormwater sampling plan is required, it shall be provided to the City prior to initiating construction. The SWPPP shall be implemented during construction.	

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Mitigation Measure	Source	Implementation Schedule	Responsible Party	Verification	Status / Date / Initials
<b>Hydrology and Water Quality (continued)</b>					
4.7-3  For long-term mitigation of site disturbances, all areas not covered by structures shall be covered with hardscape (concrete, asphalt, gravel, etc.), native vegetation and/or man-made landscape areas (for example, grass). Revegetated or landscaped areas shall provide sufficient cover to ensure that, after a two year period, erosion will not occur from concentrated flows (rills, gully, etc.) and sediment transport will be minimal as part of sheet flows.	CEQA Draft EIR	The long-term site operation SWPPP shall be completed, reviewed and approved by the Division of Rail or implementing local agency prior to initiating construction. If a stormwater sampling plan is required, it shall be provided to the Division of Rail or implementing local agency prior to initiating construction. The SWPPP shall be implemented during and after construction.	Division of Rail or implementing local agency	A copy of the approved SWPPP and sampling plan shall be retained by the Division of Rail or implementing local agency. The installation of required best management practices and sampling facilities shall be completed prior to operation and verified by field inspection. Field inspection notes shall be retained in the project file. Copies of sampling data shall be delivered to the Division of Rail or implementing local agency within one week of the data becoming available and copies shall be retained in the project file.	



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	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Verification	Status / Date / Initials
<b>Hydrology and Water Quality (continued)</b>						
4.7-4	If facilities are constructed in a flood zone, the facility will be brought to a level above flood hazards, or hardened against flood related impacts. Additionally, if facilities must be located within flood plains or hazard areas, a flood management program to minimize impacts to people and surrounding property shall be created and implemented for each facility that may occur within these hazard areas.	CEQA Draft EIR	For all facilities to be located in the flood hazard zone, a design report shall be provided to the Division of Rail or implementing local agency prior to initiating construction. The design requirements shall be implemented during construction.	Division of Rail or implementing local agency	A copy of the approved design report for flood hazard mitigation shall be retained by the Division of Rail or implementing local agency. The installation of required flood protection design requirements of the report shall be completed prior to operation and verified by field inspection. Field inspection notes shall be retained in the project file.	
4.7-5	Where reclaimed water is reasonably available, it shall be used in place of potable water for construction activities and for permanent irrigation systems associated with the grade separation landscaped areas.	CEQA Draft EIR	Determination of the availability of reclaimed water for construction activities and irrigation shall be determined prior to initiating construction. Use of reclaimed water shall occur during construction and after construction depending on the use.	Division of Rail or implementing local agency	A copy of the approved reclaimed water report shall be retained by the Division of Rail or implementing local agency. The use of reclaimed water during construction or the installation of reclaimed water irrigation systems shall be completed prior to operation and verified by field inspection. Field inspection notes shall be retained in the project file.	

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	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Verification	Status / Date / Initials
<b>Traffic and Circulation</b>						
4.8-1	Prior to initiating third main track construction or any grade separation construction, a construction traffic management plan shall be submitted and approved by the affected cities. For the third main track, such plans shall be submitted and approved by each jurisdiction where third main track construction will take place, prior to initiating construction. For the grade separations, plans shall be submitted as follows: the City of Pico Rivera (Passons) and the City of Santa Fe Springs/Los Angeles County (Pioneer); City of Santa Fe Springs and City of La Mirada (Valley View); and City of Santa Fe Springs for all other grade separation project components. The standard of measurement for the submitted plans shall be the provision of safe, albeit inconvenient, traffic flow during construction and the provision of adequate access through construction areas to meet safety and emergency vehicle access and transit through construction areas at all times when construction is underway for any components of the proposed project.	CEQA Draft EIR	This measure needs to be implemented during construction, but the construction traffic management plan shall be provided to the local jurisdiction for review and approval prior to initiating construction.	Division of Rail or implementing local agency	A copy of the approved construction management plan shall be retained in the project file. Field inspectors shall verify that the elements of the plan are implemented during construction.	

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	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Verification	Status / Date / Initials
<b>Noise</b>						
4.9-1	<u>Construction Noise</u> Construction shall be limited to the hours of 7 a.m. to 7 p.m. on Monday through Friday, and between 9 a.m. to 6 p.m. on Saturday, and shall be prohibited on Sundays and federal holidays, except in emergencies.	CEQA Draft EIR	These measures shall be implemented during construction.	Division of Rail or implementing local agency	These measures shall be implemented through contract stipulations with the contractor(s) that construct the project. A copy of the stipulations shall be incorporated into each construction contract and verification shall be provided by retaining the contract in the project file.	
4.9-2	Utilize construction methods or equipment that will provide the lowest level of noise impact, i.e., use newer equipment that will generate lower noise levels.					
4.9-3	All construction vehicles and fixed or mobile equipment shall be equipped with properly operating and maintained mufflers or sound attenuation devices, as specified in regulations at the time of construction.					
4.9-4	Schedule the construction such that the absolute minimum number of equipment would be operating at the same time.					

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	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Verification	Status / Date / Initials
<b>Noise (continued)</b>						
4.9-5	Maintain good relations with the school and community such as keeping people informed of the schedule, duration, and progress of the construction, to minimize the public objections of unavoidable noise. Communities should be notified in advance of the construction and of the expected temporary and intermittent noise increases during the construction period.	CEQA Draft EIR	These measures shall be implemented during construction.	Division of Rail or implementing local agency	These measures shall be implemented through contract stipulations with the contractor(s) that construct the project. A copy of the stipulations shall be incorporated into each construction contract and verification shall be provided by retaining the contract in the project file. Field inspections during construction shall verify that the noise measures have being implemented. Field inspection notes shall be retained in the project file.	
4.9-6	All employees that will be exposed to noise levels greater than 75 dB over an 8-hour period shall be provided with adequate hearing protection devices to ensure no hearing damage will result from construction activities.					
4.9-7	If equipment is being used that can cause hearing damage at adjacent noise receptor locations (distance attenuation shall be taken into account), portable noise barriers shall be installed that are demonstrated to be adequate to reduce noise levels at receptor locations below hearing damage thresholds. This may include erection of temporary berms or plywood barriers to create a break in the line-of-sight, or erection of a heavy fabric tent around the noise source.					

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	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Verification	Status / Date / Initials
<b>Noise (continued)</b>						
4.9-8	<u>Vibration</u> BNSF or the construction contractor shall establish a noise/vibration complaint program which shall, at a minimum, consist of a centralized noise complaint number posted at each construction site and coordinated with each local jurisdiction. Noise/vibration complaints received at this number shall receive a formal response, either by making modifications to project operations or activities or by installing measures to reduce noise/vibration at the receptor location.	CEQA Draft EIR	The complaint program (including a complaint log) shall be established and approved by the Division of Rail or implementing local agency prior to initiating construction. This measure shall be implemented during construction.	Division of Rail or implementing local agency	This measure shall be implemented through contract stipulations with the contractor(s) that construct the project. A copy of the stipulations shall be incorporated into each construction contract and verification shall be provided by retaining the contract in the project file. The approved noise/vibration complaint program shall also be retained in the project file. All complaints shall be recorded and when complaints are received the Division of Rail and implementing local agency shall be notified within 24 hours, including the response by the contractor. Field inspections during construction shall verify that the noise complaint program is being implemented by reviewing the noise complaint log. Field inspection notes shall be retained in the project file.	

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	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Verification	Status / Date / Initials
<b>Noise (continued)</b>						
4.9-9	For construction vibration impacts related to heavy construction equipment, jackhammers and vibratory compaction equipment, the contractor will be required to modify the construction procedure or arrange to complete the construction task in a manner that will reduce vibrations to a level below that which causes significant impact for the affected residence or facility. Such construction operation modifications may include: using equipment that generates less vibration; scheduling vibrating equipment use during periods when vibration impacts to the user can be minimized, such as working at night; altering the use of existing equipment (slowing equipment speeds, etc.) to reduce vibrations; and altering any environmental conditions that may be contributing to vibration, such as potholes or bumps that may cause on-road trucks to bounce and generate vibration.	CEQA Draft EIR	The response to construction vibration complaints shall be carried out during construction. However, the alternative equipment that may be used in place of high vibration equipment shall be identified in a submittal to Division of Rail or the implementing local agency prior to initiating construction.	Division of Rail or implementing local agency	This measure shall be implemented through contract stipulations with the contractor(s) that construct the project. A copy of the stipulations shall be incorporated into each construction contract and verification shall be provided by retaining the contract in the project file. The approved vibration equipment list shall also be retained in the project file. Field inspections during construction shall verify that the alternative equipment is being used where required. Field inspection notes shall be retained in the project file.	

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<b>Noise (continued)</b>						
4.9-10	For vibrations associated with pile driving, a vibration complaint shall be responded to by monitoring vibration at the affected location; altering schedules to minimize vibration conflicts with the use; modify pile driving procedures to minimize vibration to acceptable levels; using an alternative construction method to minimize vibration; or under worst case circumstances, funding relocation of the affected use during any pile driving activity.	CEQA Draft EIR	The response to construction vibration complaints shall be carried out during construction.	Division of Rail or implementing local agency	This measure shall be implemented through contract stipulations with the contractor(s) that construct the project. A copy of the stipulations shall be incorporated into each construction contract and verification shall be provided by retaining the contract in the project file. The method of mitigating a vibration impact (alternative construction equipment or relocation during its use) shall be identified to the Division of Rail or implementing local agency prior to implementing the measure. Field inspections during construction shall verify that the alternative is being implemented where required. Field inspection notes shall be retained in the project file.	

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	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Verification	Status / Date / Initials
<b>Housing</b>						
4.10-1	Within two years of taking the properties required for the Passons Boulevard Grade Separation, the City of Pico Rivera shall elicit, encourage or provide for opportunities for construction of up to 95 residential units (to be based on the actual number of units removed in support of the grade separation), with up to 90 units being affordable rental units.	CEQA Draft EIR	Within two years of taking properties in support of the Passons Boulevard grade separation project.	City of Pico Rivera	The action taken by the City to replace affordable housing shall be identified and implemented. A memo regarding the action shall be placed in the City's project file.	
<b>THE FOLLOWING MITIGATION MEASURES WERE INCLUDED IN THE INITIAL STUDY TO REDUCE POTENTIAL SIGNIFICANT IMPACTS TO A LESS THAN SIGNIFICANT LEVEL.</b>						
<b>Housing</b>						
XII.b.1	Housing relocation assistance shall be provided to those residents that require such service. Successful relocation shall be accomplished when comparable housing within the project area is occupied by the those residents requiring housing relocation assistance.	CEQA Draft EIR, Initial Study	This measure shall be implemented during the period of time when occupied residential or commercial property is being acquired in support of the proposed project.	Implementing local agency	The assistance provided to each property owner affected by acquisition of residential or commercial property shall be documented and retained in the project file by the implementing local agency.	



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	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Verification	Status / Date / Initials
<b>Public Services</b>						
XIII.a.1	Prior to initiating construction of the third main line track or each of the grade separations, BNSF shall submit and have approved a fire or medical emergency response access plan that meets each affected jurisdiction's response time frame. Success for this measure will be determined by the local fire agency approving and verifying that the specific access response plan and measures will allow them to continue meeting their emergency response time frame objectives.	CEQA Draft EIR, Initial Study	This measure shall be implemented prior to initiating construction, both the emergency access plan and its approval, and any implementing measures.	Division of Rail or implementing local agency	The approved emergency access plan shall be retained in the project file. Implementing measures shall be verified in the field by inspections during construction and field notes shall be retained in the project file.	
XIII.b.1	Prior to initiating construction of the third main line track or each of the grade separations, BNSF shall submit and have approved a police emergency response access plan that meets each affected jurisdiction's response time frame. Success for this measure will be determined by the local law enforcement agency approving and verifying that the specific access response plan and measures will allow them to continue meeting their emergency response time frame objectives.	CEQA Draft EIR, Initial Study	This measure shall be implemented prior to initiating construction, both the police emergency response access plan and its approval, and any implementing measures.	Division of Rail or implementing local agency	The approved police emergency response access plan shall be retained in the project file. Implementing measures shall be verified in the field by inspections during construction and field notes shall be retained in the project file.	

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<b>Public Services (continued)</b>						
XIII.b.2	Prior to initiating construction of the third main line track or each of the grade separations, BNSF shall submit and have approved an access control plan to its staging and equipment storage areas that meets each affected jurisdiction's crime minimization standards. Success for this measure will be determined by the local law enforcement agency approving and verifying that the access control plan and measures will minimize trespass and theft activities in accordance with local requirements.	CEQA Draft EIR, Initial Study	This measure shall be implemented prior to initiating construction, both the police access control plan and its approval, and any implementing measures.	Division of Rail or implementing local agency	The approved police access control plan shall be retained in the project file. Implementing measures shall be verified in the field by inspections during construction and field notes shall be retained in the project file.	
XIII.c.1	Prior to initiating construction of the Passons Boulevard grade separations, BNSF, Division of Rail or the implementing local agency shall submit a mitigation plan to the local school district providing new acreage to offset the loss of acreage from project implementation at Maizeland School. If such acreage compensation is not feasible, the project proponent shall provide improvements to school facilities deemed acceptable by the local school district to offset the loss of play area and parking. Such mitigation may consist of new school equipment or other facilities deemed to offset the Passons Boulevard impacts on the school site.	CEQA Draft EIR, Initial Study	This measure shall be implemented prior to initiating construction of the Passons grade separation project component.	Division of Rail or implementing local agency	The approved mitigation for the loss of school acreage shall be retained in the project file. Field inspection shall verify that the approved mitigation, additional acreage or additional recreational facilities, have been provided to the Maizeland School. A copy of field inspection notes shall be retained in the implementing agency's project file.	

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	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Verification	Status / Date / Initials
<b>Traffic and Circulation</b>						
XV.f.1	Prior to initiating construction of the third track or grade separations, BNSF shall submit a parking plan to the local affected jurisdiction for its construction staging and equipment storage sites that demonstrate adequate parking capacity for the total number of employees and delivery vehicles that will be on the site at any given time.	CEQA Draft EIR, Initial Study	This measure shall be implemented prior to initiating construction of any segment of the third main track project.	Division of Rail or implementing local agency	The approved parking plan shall be retained in the project file. Field inspections shall verify that the parking plan is being adhered to and field inspection notes shall be placed in the project file.	
<b>Utilities and Service Systems</b>						
XVI.b.1	Prior to initiating relocation of any utility system located within the railroad right-of-way, BNSF or the implementing local agency will notify the pertinent utility of the construction plan and utility relocation plan. The BNSF or implementing local agency will work with the utility under the terms of the utilities agreement to occupy the BNSF's or implementing local agency's right-of-way to limit short-term system relocation effects and minimize outages to the degree feasible. BNSF or the implementing local agency shall submit sufficient engineering data to verify that remaining utility systems will function as effectively after relocation as it does before relocation.	CEQA Draft EIR, Initial Study	The notifications shall be provided to the affected utilities prior to initiating construction activities that will require relocation of such utility lines.	Division of Rail or implementing local agency	Copies of the notification packages to the affected utilities shall be retained in the project file. Field inspections shall verify that the utility relocations are being carried out in accordance with the utility relocation plans and field inspection notes shall be placed in the project file.	